RECENT GEOGRAPHICAL WORK IN EUROPE

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The present article is based on observations made in 1921 while on six months' leave of absence granted by the American Geographical Society and during a sojourn in Europe ten to thirteen years before, as well as on printed sources of information. The countries visited on both occasions were England, France, Germany, Belgium, the Netherlands, Switzerland, and Italy. In addition there were visited, in 1921, Scotland and Spain, and, on the earlier occasion, the following countries (as now constituted): Denmark, Czechoslovakia, Austria, Hungary, Yugoslavia, and Rumania. The discussion, which attempts to deal with all of Europe except Russia, lays no claim to being balanced or uniform in emphasis; indeed, it only reflects what has happened to come to the writer's attention. For the inevitable omissions, and for the possible inaccuracy in statement of information learned in conversation only, the writer begs the indulgence of his fellow-workers abroad. For their many courtesies and their constant helpfulness he is deeply grateful.

On the accompanying map are shown universities giving instruction in geography and geographical societies, as the existence or non-existence of such institutions possibly best reflects the general state of development of geography in a given country. This information is compiled from the latest edition of handbooks and other publications,[1] checked from personal

[1] Especially the general handbooks: (1) Minerva: Jahrbuch der gelehrten Welt, Vol. 25 for 1921, Berlin and Leipzig, 1921; (2) Index Generalis: Annuaire général des universités, etc., 2nd issue, Paris, 1921. For the respective countries the following are valuable: (1) Athena: A Yearbook of the Learned World: The English Speaking Races, New York, 1920; (2) Les ressources du travail intellectuel en France, Paris, 1921; (3) Annuario degli istituti scientifici italiani, 2nd issue, Bologna and Rome, 1920.

Of geographical societies the only systematic list still is the one in *Geogr. Jahrbuch*, Vol. 32 for 1909, pp. 411–418. More recent information with regard to some may be found in Index Generalis for 1921, pp. 1342–1349 (incomplete list), and for individual countries in the regional handbooks referred to above; for France, in addition, in *La Géogr.*, Vol. 36, 1921, p. 141.

A general survey of the status of geography in the different countries is afforded (1) by the conference held at the University of Virginia during the American Geographical Society's Transcontinental Excursion of 1912 (Proceedings of a Called Meeting of the Scientific Section, *Univ. of Virginia Publs.: Proc. Philos. Soc.*, 1911–12, pp. 99–134, and The Conference on Geographical Education Held During the Transcontinental Excursion of 1912, *Bull. Amer. Geogr. Soc.*, Vol. 46, 1914, pp. 121–126) and (2) by the reports of progress during the last 25 years made to the Tenth International Geographical Congress at Rome, 1913 (*Atti del X Congr. Internaz. di Geogr., Roma 1913*, Rome, 1915, pp. 116–392). Cf. also pp. 135–139 of R. H. Whitbeck: Geography in American and European Universities, *Journ. of Geogr.*, Vol. 18, 1919, pp. 129–141.

observation. The point of view is, on the whole, conservative. Only universities are shown at which geography in the modern sense is taught; in some cases one or two branches only may be represented, such as phytogeography or oceanography, but at the great majority of universities shown the subject is presented completely. Of geographical societies it is intended to show only those that are doing active work (mainly, publishing), with due allowance for war interruption. Where a society maintains a number of branches, as is the case with several societies, particularly in France, only the main society is shown. For the countries other than Russia not shown on the map (Rumania, Bulgaria, Greece) the universities and geographical societies are indicated in the title. Other institutions of importance to geography, such as survey organizations and institutions devoted to related sciences, are not shown on the map; some of them are referred to in the text.

Great Britain

In keeping with her traditional liberalism, Britain, more than any other country in Europe, it would seem, is making geography serve as a medium for the more sympathetic understanding of other peoples. In England, too, as on the Continent, the subject is of course being advanced for its utilitarian value, for the knowledge that is power, but nowhere else is its ideal function being emphasized so much as in England. The late Professor Herbertson may be counted as one of the leading exponents of this view. We need only recall his last papers,"Regional Environment, Heredity, and Consciousness" [2] and "The Higher Units."[3] It is generally conceded that he was on the threshold of great things when his career was cut short. His untimely death has been a great loss. But his work goes on. Professor H. J. Fleure of the University College of Wales at Aberystwyth approaches the problem from the anthropological side, from the study of early civilizations. By studying the accumulated tradition of a people, he aims to gain an insight into their spirit.[4] Applied to the local region, this method is the essence of the "regional survey" movement,[5] which has a widespread following. By imparting an understanding of the *genius loci*, it aims to train for better citizenship. This movement is in large measure the outgrowth of the work of Professor Patrick Geddes and puts into effect the ideas of his Outlook Tower in Edinburgh, a museum of civic geography with a world outlook.[6] Professor Geddes was appointed after the war to the chair of sociology at the University of Bombay, following the fruitful application of the town-planning principles of his "Cities in Evolution" (London, 1915) to Indian

[2] *Geogr. Teacher*, Vol. 8, 1915–16, pp. 147–153.

[3] *Scientia* (published in Bologna), 1913, No. 5.

[4] Cf. "Human Geography in Western Europe," London, 1918; France: A Regional Interpretation, *Scottish Geogr. Mag.*, Vol. 32, 1916, pp. 519–534 (on both publications see *Geogr. Rev.*, Vol. 6, 1918, pp. 515–516); Countries as Personalities (address at meeting of British Assoc. Adv. Sci., Edinburgh, Sept. 12, 1921).

[5] Cf. A Conference on Regional Surveys, *Geogr. Teacher*, Vol. 8, 1915–16, pp. 89–102 and 164–172.

[6] In it are embodied some of the ideas expressed in Patrick Geddes: Note on Draft Plan for Institute of Geography, *Scottish Geogr. Mag.*, Vol. 18, 1902, pp. 142–144, with plan; and J. G. Bartholomew: A Plea for a National Institute of Geography, *ibid.*, pp. 144–148.

cities. Quite recently he has been engaged on similar work for Jerusalem.[7] Dr. J. F. Unstead, head of the geography department at Birkbeck College, University of London, is another advocate of world knowledge as a basis for

FIG. 1—Map showing the universities giving instruction in geography and the geographical societies of Western Europe. Scale, 1 : 22,500,000. To cover the same ground as the text, the following should be added: in Rumania, universities at Bukharest, Jassy, Cluj (Kolozsvár), Czernowitz, and geographical society at Bukharest; in Bulgaria, university at Sofia.

a sympathetic understanding of other peoples. As chairman of the Geographical Committee of the League of Nations Union he has been devoting himself to this problem. His views are expressed in two recent publications, a book entitled "Europe of Today" (London, 1921), the first of a series of

[7] Patrick Geddes: The City of Jerusalem, *Garden Cities and Town-Planning* (London), Vol. 11, 1921, pp. 251–254.

"Citizens of the World Geographies," and a paper on "The Study and Teaching of International Relations."[8] The study of one of the most important questions of international relations has been taken up by Professor P. M. Roxby of the University of Liverpool. In 1912–13, as Kahn Traveling Fellow, he visited China and Japan, and he is at present in China as adviser to the Chinese Government in the reorganization of the schools and colleges hitherto maintained by missionary societies. It is expected that Professor Roxby will visit the United States on his return to England this summer. He has dealt with his field of study mainly in "The Far Eastern Question in Its Geographical Setting"[9] and "Some Aspects of the Geography of China."[10]

Senior Workers in Geography

Of those who were closely associated with the creation of modern geography in Great Britain several are still active. Sir John Scott Keltie, late Secretary of the Royal Geographical Society, whose fundamental investigation of the status of geography on the Continent, undertaken in 1884 and 1885 on the Society's behalf, provided the groundwork for the action taken in introducing the subject in British universities, is still vigorous in spite of his four score years and more, as evidenced by his recent report on "The Position of Geography in British Universities"[11] and his earlier "Thirty Years' Progress in Geographical Education."[12] Sir H. J. Mackinder, who preceded Herbertson as Reader at Oxford, has remained, as member of Parliament, loyal to our subject. His suggestive book "Democratic Ideals and Reality" (London, 1919),[13] indeed, is a fruitful application of the geographical viewpoint to political questions. His continued activity on behalf of the advancement of geography is betokened by his "Presidential Address to the Geographical Association, 1916"[14] and "Geography as a Pivotal Subject in Education."[15] Dr. H. R. Mill, the veteran Director of the British Rainfall Organization, whose failing eyesight forced him to relinquish that position in 1919, has fortunately so recovered that he is again able to be an active participant in geographical meetings. His recent Herbertson Memorial Lecture, "The Value of Regional Geography,"[16] will be read with interest, not the least because of its reminiscent strain.

Geography at the Universities

As regards the present representation of geography at the universities: sixteen out of a total of eighteen in Great Britain include the subject in their

[8] *Geogr. Teacher*, Vol. 11, 1921–22, pp. 136–140.

[9] *Geogr. Teacher*, Vol. 10, 1919–20, pp. 82-90, 142–150, and 253–269, with map on p. 270 (abstracted in the *Geogr. Rev.*, Vol. 12, 1922, pp. 138–139).

[10] *Ibid.*, Vol. 8, 1915–16, pp. 1–5.

[11] *Amer. Geogr. Soc. Research Series No. 4*, New York, 1921.

[12] *Geogr. Teacher*, Vol. 7, 1913–14, pp. 215–227.

[13] Cf. F. J. Teggart: Geography as an Aid to Statecraft: An Appreciation of Mackinder's "Democratic Ideals and Reality," *Geogr. Rev.*, Vol. 8, 1919, pp. 227–242.

[14] *Geogr. Teacher*, Vol. 8, 1915–16, pp. 271–277.

[15] *Geogr. Journ.*, Vol. 57, 1921, pp. 376–384.

[16] *Geogr. Teacher*, Vol. 11, 1921–22, pp. 63–75 (incorrectly numbered pp. 7–19). Noticed in *Geogr. Rev.*, Vol. 11, 1921, p. 629.

curriculum. At ten of these it is a subject for the Honours degree, i.e. a degree requiring advanced work and specialization.[17] At Oxford, which was the first and remains the best equipped School of Geography, Mr. H. O. Beckit is Reader. In addition, geography is the gainer by the work of Professor J. L. Myres in the relations of history and geography and of Dr. D. G. Hogarth on the Near East. Some aspects of the war work with which Dr. Hogarth was in touch as head of the Arab Bureau in Cairo he has fascinatingly described in two articles.[18] His Presidential Address on "Applied Geography"[19] before Section E (Geography) at the Edinburgh meeting of the British Association for the Advancement of Science in September, 1921, will also be read with interest. At Cambridge the present Honours standing of geography dates from the establishment of the Geographical Tripos, in 1919.[20] Mr. Philip Lake is Reader in regional and physical geography, Mr. H. Yule Oldham lecturer in historical geography, and Mr. Frank Debenham lecturer in cartography. Mr. Debenham, who was a member of Scott's Antarctic expedition, has recently been advocating the establishment of a polar research institute.[21] Dr. A. C. Haddon's work as Reader in ethnology has much geographical bearing.

Among other universities where geography is being actively forwarded should be mentioned: the University of Liverpool, where Professor Roxby has built up a strong department, recently acquiring an entire private house, which has been made over and furnished with a wide range of equipment; the University of London, with which are connected Mr. James Fairgrieve, author of "Geography and World Power" (London, 1915), who gave a course on "The Geographical Factor in History" at the University of Chicago during the 1921 summer term, and (at University College) Professor L. W. Lyde, well known for his "The Continent of Europe" (London, 1913), as professor of economic geography; the University College of Wales at Aberystwyth, where Professor Fleure, through his courses and his editorship of the *Geographical Teacher*, is exercising marked influence on the development of geographic thought in Great Britain; the University of Leeds, where the Reader is C. B. Fawcett, whose discussion of a proposed new administrative subdivision of Great Britain on geographical lines has recently appeared in book form;[22] the University of Sheffield, where Dr.

[17] On geography in British universities cf. the valuable tabular synopsis in *Scottish Geogr. Mag.*, Vol. 37, 1921, pp. 272–273, and the account by Sir J. S. Keltie mentioned in footnote 11 as well as the synopsis in *Geogr. Teacher*, Vol. 7, 1913–14, pp. 194–209, and the previous synopses there mentioned. On British universities in general cf.: The Universities of the United Kingdom of Great Britain and Ireland: A Handbook Compiled by the Universities Bureau of the British Empire, *Board of Education Educational Pamphlet No. 33*, London, 1918 (prepared on the occasion of the visit of delegates from British universities to American universities at the invitation of the Council of National Defense).

[18] War and Discovery in Arabia, *Geogr. Journ.*, Vol. 55, 1920, pp. 422–439; Some Recent Arabian Explorations, *Geogr. Rev.*, Vol. 11, 1921, pp. 321–337.

[19] E.g. in *Scientific Monthly*, Vol. 13, 1921, pp. 322–327.

[20] Cf. Philip Lake: The Geographical School at Cambridge, *Geogr. Teacher*, Vol. 10, 1919, pp. 80–81; and W. M. Davis: Geography at Cambridge University, England, *Journ. of Geogr.*, Vol. 19, 1920, pp. 207–210.

[21] Frank Debenham: The Future of Polar Exploration, *Geogr. Journ.*, Vol. 57, 1921, pp. 182–204.

[22] Provinces of England: A Study of Some Geographical Aspects of Devolution, London, 1919 (expanded from Natural Divisions of England, *Geogr. Journ.*, Vol. 49, 1917, pp. 124–141, abstracted in *Geogr. Rev.*, Vol. 7, 1919, pp. 114–115, with map).

R. N. Rudmose Brown, who has specialized in Spitsbergen,[23] is head of the department; the University College, Southampton, at which Professor W. H. Barker has been developing an Institute of Geographical Study, favored by the proximity of the Ordnance Survey and the world "clearing-house" function of the port; the University of Edinburgh, at which geography has long been represented by Mr. G. G. Chisholm, who is at present producing a new edition of his well-known "Handbook of Commercial Geography"; and the University of Aberdeen, at which Mr. John Macfarlane is lecturer in geography. The old-established geography department at the Victoria University of Manchester has, since Mr. A. G. Ogilvie joined the staff of the American Geographical Society, unfortunately been without a head; but this condition will soon be changed, as, it is understood, Professor Barker has accepted a call to go there.

Work of Institutions

Institutions other than universities are, of course, contributing to the advancement of geography in Great Britain. Of the Royal Geographical Society's work there can only be mentioned the Mt. Everest expedition, the recently inaugurated Technical Series,[24] and the war-time production, in co-operation with the Geographical Section of the General Staff, of a map on the scale of 1 : 1,000,000 covering practically all of Europe and the Near East, which took the place of the—for the greater part of the area—non-existent International Map of the World and which did substantial service during the war. The war work of the Ordnance Survey is described in "The Ordnance Survey and the War, 1914–1919," published by the Survey in Southampton in 1919. The position of Archeology Officer, recently created on the staff of the Survey, is filled by Mr. O. G. S. Crawford, author of "Man and His Past" (London, 1921) and the article "Prehistoric Geography" in the *Geographical Review* for April. His duties involve the search for and indentification of ancient remains, including prehistoric barrows and Roman sites, and their plotting on the six-inches-to-the-mile map. The Ordnance Survey, as the Central Bureau, has also recently published a report, with index maps, on the status of the International Map of the World.[25] Of the various war and peace conference publications of government bureaus the most important are the two series of handbooks on the problem areas of the world compiled by the Historical Section of the Foreign Office[26] and the Geographical Section of the Naval Intelligence

[23] The substance of several articles (e. g. Spitsbergen: Terra Nullius, *Geogr. Rev.*, Vol. 7, 1919, pp. 311–321) is contained in Dr. Rudmose Brown's book "Spitsbergen," Philadelphia, 1920.

[24] No. 1: Some Investigations in the Theory of Map Projections, by A. E. Young; No. 2: Alphabets of Foreign Languages Transcribed Into English According to the R. G. S. II System, by Major-General Lord Edward Gleichen and J. H. Reynolds.

[25] Carte du Monde au Millionième: Rapport pour 1921, Bureau Central, Ordnance Survey Office, Southampton.

[26] For a list see *Geogr. Teacher*, Vol. 10, 1919-20, p. 311. See also *Geogr. Journ.*, Vol. 56, 1920, pp. 216–219 and 314–316.

Division.[27] New geographical work on the far-flung battle lines of the world war,[28] and airplane mapping,[29] are reflected in many articles.

Mention should be made of the admirable Edinburgh (Aug.-Sept.-Oct. 1919) and Glasgow (Jan. 1921) numbers of the *Scottish Geographical Magazine*,[30] the former with a suggestive map of the historical growth of the city by the late Dr. J. G. Bartholomew, which formed a valuable corollary to the discussion of "The Geography of Edinburgh and District: Past, Present, and Future Outlook" at a session of Section E of the Edinburgh meeting of the British Association and to the handbook issued on that occasion.[31] At that meeting Dr. Marion I. Newbigin, editor of the magazine, read an illuminating paper on "The Mediterranean City-State in Dalmatia." From her earlier general discussion of Balkan geography, of which this paper represented a special problem, she has recently proceeded to a geographical consideration of the peace settlements.[32]

One of the last undertakings to which the late Dr. Bartholomew was able to devote his attention is the "Times Survey Atlas of the World" (London, 1921), recently completed. The use throughout the atlas of the layer method to represent relief, of which he was the leading exponent,[33] is a distinctive contribution, which for the first time in a work of this type makes this fundamentally important geographical element easily understandable by the general public. Among other outstanding British map publications may be mentioned the recent (London, 1922) series, by Mr. George Philip, of wall maps of the continents showing commercial development, which carry out, with refinement of method, the suggestive manner of portraying the facts of economic geography which he outlined some years ago.[34] Of interest to American teachers is the recent publication, under his editorship, of a set of maps of the United States in 1:4,500,000, in the series by Unstead and Taylor in which there is a map for each of the significant phases of the geography of each continent.

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[27] For a list see *Geogr. Teacher*, Vol. 11, 1921–22, p. 39 (the issue containing this page is incorrectly allotted to Vol. 12) and p. 113 (incorrectly numbered p. 57). See also *Geogr. Journ.*, Vol. 57, 1921, pp. 51–52.

[28] H. St. J. B. Philby, *Geogr. Journ.*, Vol. 55, 1920, and Vol. 56, 1920; E. H. Keeling, *ibid.*, Vol. 55, 1920; L. C. Dunsterville, *ibid.*, Vol. 57, 1921; Percy Sykes, *ibid.*, Vol. 58, 1921; L. V. S. Blacker, *ibid.*, Vol. 58, 1921; and three systematic papers by A. G. Ogilvie: Notes on the Geography of Imbros, *Geogr. Journ.*, Vol. 48, 1916, pp. 130–145; A Contribution to the Geography of Macedonia, *ibid.*, Vol. 55, 1920, pp. 1–34; Physiography and Settlements in Southern Macedonia, *Geogr. Rev.*, Vol. 11, 1921, pp. 172–197.

[29] H. H. Thomas, *Geogr. Journ.*, Vol. 55, 1920; H. A. Lloyd, *ibid.*, Vol. 56, 1920; S. F. Newcombe, *ibid.*, Vol. 56, 1920; E. M. Dowson, *ibid.*, Vol. 58, 1921.

[30] See note in *Geogr. Rev.*, Vol. 11, 1921, pp. 298–299.

[31] Edinburgh's Place in Scientific Progress. Prepared for the Edinburgh Meeting of the British Association by the Local Editorial Committee, Edinburgh and London, 1921. (With chapters on meteorology, geology, oceanography, and geography.)

[32] Aftermath: A Geographical Study of the Peace Terms, Edinburgh, 1920 (reviewed in the *Geogr. Rev.*, Vol. 11, 1921, p. 452).

[33] An appreciation of Dr. Bartholomew's contribution to cartography appears in the obituary notice, *Scottish Geogr. Mag.*, Vol. 36, 1920, pp. 183–185.

[34] A New Series of Economic Maps for School Use, *Geogr. Journ.*, Vol. 50, 1917, pp. 438–447, with map, Eurasia: Commercial Development, 1:40,000,000.

France

Let us now turn to France.[35] Geography is represented, and well represented, at practically all of the sixteen universities of France.[36] Nearly all the occupants of the chairs of geography are pupils, or pupils of pupils, of the late Vidal de la Blache.[37] In no country, it may be said, not even in Germany with her Richthofen, has the development of modern geography so centered about one man as in France. And France may be content. The school that she has developed is the admiration of professional geographers the world over. The national ideals of unity and beauty, translated in the scientific world into synthesis and sense of proportion, are peculiarly valuable in geographic work. From this school has come, and is coming, that excellent series of regional studies of France,[38] introduced by Vidal de la Blache's own admirable "La France: Tableau géographique."

Recognizing that an adequate regional treatment of the world is the fundamental desideratum of modern geography, the leading French geographers had, some years before the war, begun on a series of regional geographies intended to cover the world, in which each region or country was assigned to a specialist.[39] Several of the volumes were already in manuscript when the war broke out and completely stopped the undertaking. Now, fortunately, it is possible to proceed again, and we may within reasonable time look forward to regional geographies of the first order from such men as Gallois, De Martonne, Demangeon, and others.

Bibliographies

Another fundamental undertaking of the French, the annual bibliography of the *Annales de Géographie*, suppressed by the war since the volume covering 1913–14, has again been taken up. A volume covering 1915–19 has just appeared, edited by Monsieur Elicio Colin, as Monsieur Louis Raveneau, the veteran bibliographer, felt compelled to relinquish the editorship. Its appearance is in part made possible by a subsidy from the "Association de Géographes Français," a recently founded organization of professional

[35] For an excellent brief account of the development of geography in France, with a list of the leading works that are products of the French school, see E. de Martonne: La science géographique, pp. 375–396 of Vol. 2 of "La Science Française," 2 vols., Paris, 1915, published on the occasion of the Panama-Pacific Exposition at San Francisco.

[36] This number does not include the University of Algiers, which forms part of the French university system and at which geography is well represented, nor the five Catholic universities, at four of which (Angers, Lille, Lyons, Paris) geography is taught. For a valuable synopsis of geographical courses given at French universities, see "Cours en langue française professés pendant l'année scolaire 1921–22," *La Géogr.* (Paris), Vol. 36, 1921, pp. 555–558 (for 1920–21, *ibid.*, Vol. 34, 1920, pp. 425–427; for 1899–1900, *Ann. de Géogr.*, Vol. 9, 1900, pp. 83–85). Cf. also L. Gallois: La géographie dans l'enseignement supérieur en France, *La Geografia* (Novara), Vol. 6, 1918, pp. 495–500.

[37] On Vidal de la Blache's influence on the development of geography in France, see L. Gallois and E. de Martonne: Paul Vidal de la Blache, *Geographen Kalender*, Vol. 8, 1910, Gotha, pp. viii–xxx; and L. Gallois: Paul Vidal de la Blache, *Ann. de Géogr.*, Vol. 27, 1918, pp. 161–173.

[38] List in De Martonne, La science géographique, cited above, and *Geogr. Teacher*, Vol. 9, 1917–18, pp. 202–203.

[39] Cf. note in *Geogr. Rev.*, Vol. 1, 1916, p. 55.

geographers akin to our own Association of American Geographers and, indeed, it is understood, partly inspired by it. During the temporary lapse of this publication the bibliography compiled by S. Reizler, librarian of the Paris Geographical Society, and appearing since 1919 (Vol. 32, No. 5) in each number of its monthly organ, *La Géographie*, has, although less systematic and critical, done invaluable service.

Geography at the Sorbonne

Owing to the French system of centralization, geography is of course best represented at the University of Paris, i.e. at the Sorbonne. It is there in the tried hands of Professors L. Gallois, E. de Martonne, and A. Demangeon. Inasmuch as the subject has in France had the opposite development to what it has had with us, namely developing from history instead of from geology, in its modern aspect it is a subject belonging primarily, at all the universities, to the Faculté des Lettres. With the prestige of Paris, however, geography, as physical geography, is also represented on the Faculté des Sciences (by Professor L. Gentil).[40] But the modern conception of the subject prevails so completely that physical geography is as a matter of course included in the curriculum of the Faculté des Lettres at the Sorbonne; indeed it is there represented by Professor De Martonne. As a result of a recent gift a building has been erected in the university quarter near the Prince of Monaco's Institut Océanographique, at the corner of the rue St. Jacques and the rue Pierre Curie, and is nearing completion, for the exclusive use of the department of geography. It will house the staffs of both faculties. With this needed improvement in its physical equipment, we may look forward to even greater things from this center of French geographic learning.

The Provincial Universities

Among the leading geographers at the provincial universities may be mentioned Professor Raoul Blanchard, at Grenoble, who has built up an excellent department specializing in the geography of the Alps, the work of which is published in the *Recueil des Travaux de l'Institut de Géographie Alpine* (now *Revue de Géographie Alpine*); Professor Camena d'Almeida, at Bordeaux, who knows Spain thoroughly; and, at the new University of Strasbourg, Professor H. Baulig, the department at which, curiously behind-hand under the old régime in this former outpost of the Empire,[41] has been moved from the old German university building to the former Imperial Palace. At Strasbourg the well-known geographer-geologist, Monsieur E. de Margerie, translator and amplifier of Suess's "The Face

[40] Louis Gentil: La chaire de géographie physique de la Faculté des Sciences de Paris, *Revue Scientifique*, 1920, No. 1, 32 pp.

[41] H. Baulig: Le "Geographisches Seminar" de l'Université de Strasbourg, *Revue Internatl. de l'Enseignement*, May 15–June 15, 1920, pp. 206–211.

of the Earth," has been appointed director of the Geological Survey of Alsace-Lorraine. A second chair of geography at the university was offered to Pierre Denis, recently author of an important work on Argentina[42] which rivals his former standard "Le Brésil au XX^{ème} Siècle," but he declined, joining, instead, the staff of the Political Section of the Secretariat of the League of Nations in Geneva. At the University of Algiers geography is represented by the eminent specialists in the geography of North Africa, Professors Augustin Bernard and E. F. Gautier. Professor Gautier is at present visiting professor at Harvard University. He addressed the joint meeting of the American Geographical Society and the Association of American Geographers this spring on "Native Life in French North Africa."

Human Geography

In the field of human geography there have appeared two important works by Professor Jean Brunhes of the Collège de France, Paris, well known for his "La géographie humaine,"[43] one (jointly with Professor Camille Vallaux of the Ecole des Hautes Etudes Commerciales), "La géographie de l'histoire," a suggestive discussion of the geography of history, and the other, "Géographie humaine de la France," a preliminary volume on the human geography of France.[44] Professor Demangeon, too, has recently contributed a valuable paper in this domain, on the types of rural dwellings in France.[45] From the French school, it is understood, there may be expected in the not distant future a manual of human geography comparable to De Martonne's standard manual of physical geography. A fruitful field developed by the French is that of city geography, as witness the studies by Levainville of Rouen[46] and by Blanchard of Grenoble and Annecy.[47] A periodical was founded in 1919 by the Institut d'Histoire de Géographie et d'Economie Urbaines de la Ville de Paris, called *La Vie Urbaine*, in which papers of geographical interest appear, notably one by Louis Bonnier with a series of maps showing the growth of Paris progressively from 1800 to 1911,[48] and another on the northeastern section of Paris, with an airplane photographic map in 1 : 5,000.[49]

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[42] La République Argentine: La mise en valeur du pays, Paris, 1920 (reviewed in *Geogr. Rev.*, Vol. 11, 1921, pp. 148–149).

[43] Recently made available to English-speaking students by Isaiah Bowman and R. E. Dodge in "Human Geography," Chicago, 1920.

[44] For reviews see —— of the former: Douglas Johnson: The Geography of History: A Review, *Geogr. Rev.*, Vol. 12, 1922, pp. 278–293; of the latter: *Geogr. Rev.*, Vol. 11, 1921, pp. 430–433, and the forceful discussion by Camille Vallaux: Rivières, pays, et maisons de France, *La Géogr.*, Vol. 35, 1921, pp. 113–126.

[45] A. Demangeon: L'habitation rurale en France: Essai de classification des principaux types, *Ann. de Géogr.*, Vol. 29, 1920, pp. 352–375.

[46] J. Levainville: Rouen: Étude d'une agglomération urbaine, Paris, 1913.

[47] Grenoble: Étude de géographie urbaine, 2nd edit., Paris, 1913; Annecy: Esquisse de géographie urbaine, *Recueil des Trav. de l'Inst. de Géogr. Alpine*, Vol. 4, 1916, pp. 369–463.

[48] La population de Paris en mouvement, 1800–1911, No. 1–2, 1919, pp. 7–76; Cartes isochrones de l'agglomération parisienne, No. 3, pp. 245–250.

[49] Myriem Foncin: Belleville, No. 11, Dec. 5, 1921, pp. 391–415.

Other Work of Interest

Among other outstanding developments of interest should be mentioned the publication of the Service Géographique de l'Armée "Notices"[50] and the excellent Travaux du Comité d'Études,[51] both series, like their previously mentioned British counterparts, preparatory reports for the peace conference on the problem areas of the world; the centenary of the Paris Geographical Society, celebrated on July 4–7, 1921, under the auspices of its president, Prince Roland Bonaparte, and its secretary-general, Monsieur G. Grandidier, on which occasion a valuable history of this oldest of all geographical societies was published;[52] and, in the field of exploration, Commandant Tilho's renewed work in the Tibesti upland region of the east-central Sahara.[53]

The war work of the Service Géographique de l'Armée is discussed in two articles,[54] one by General Bourgeois, its former head. Of foremost interest are the "plans directeurs," mainly in 1 : 20,000, a series of maps, now first made available to the public, which cover the whole eastern frontier region of France. The sheets relating to the French Alps, because of their unusually large scale, afford an exceptionally valuable tool for the study of an alpine region. Of like value are the relief models in 1 : 20,000, with no vertical exaggeration, which have been made sheetwise out of this series for the whole war area from the North Sea to Switzerland. The appearance is striking of a set of the models when put together to cover a type region such as the Vosges or the eastern cuestas of the Paris Basin. Another cartographical undertaking of importance is the appearance of a new edition of the "Atlas Universel de Géographie" under the direction of the veteran geographer, Monsieur F. Schrader. In the new edition greater legibility is attained by representing relief in a different color from the line element. The valuable physical maps of the continents have been retained from the previous edition.

Germany

Germany emerges from the war with two more universities than she had before: three are newly established, Frankfort (1914), Cologne (1919), and Hamburg (1919), and one, Strasbourg, has been lost. Geography is represented by at least one full professorship at each of her universities, now twenty-three in number. An authentic count[55] of all the instructors of

[50] Notices descriptives et statistiques, Commission de Géographie du Service Géographique de l'Armée et 2e Bureau de l'État-Major de l'Armée. For list see *La Géogr.*, Vol. 33, 1920, pp. 355–356.

[51] For titles see *La Géogr.*, Vol. 33, 1920, pp. 149–154; Vol. 34, 1920, pp. 286 (last item), 289–298, *passim*, 308–311 (maps); Vol. 36, 1921, p. 104 (third item).

[52] Centenaire de la Société de Géographie, 1821–1921, 72 pp., Paris, 1921 (republished with an account of the centenary as an 151-pp. book, Paris, 1921, and in *La Géogr.*, Vol. 36, 1921, No. 2). Cf. also Notice sur la Société de Géographie, 91 pp., Paris, 1914, and note in *Geogr. Rev.*, Vol. 12, 1922, p. 143.

[53] *Geogr. Journ.*, Vol. 56, 1920, pp. 81–99, 161–183, 241–267, with map in 1:2,000,000; also *La Géogr.*, Vol. 36, 1921, pp. 295–317.

[54] Le Service Géographique de l'Armée et la cartographie de guerre, *La Géogr.*, Vol. 32, 1918–19, pp. 463–484; [J. E. R.] Bourgeois: Le Service Géographique de l'Armée pendant la guerre, *Revue Scientifique*, Nov. 27, 1920, pp. 673–684. Cf. also note "Nouvelles cartes et plans en relief de France," *Ann. de Géogr.*, Vol. 30, 1921, pp. 149–150.

geography at her universities and higher technical schools[55]—full professors, associate professors, and *privatdozenten*—reveals the formidable number of 70. The subject of investigation of these men is specifically geography. They are not geologists or historians called geographers. They often specialize, of course, in some branch of our subject, and some of the very few remaining of the oldest generation have come to it from other sciences, but all, it may be said, consider the totality of geography as their field and feel it their duty to be proficient in it. Granted the high standard—in spite of its weaknesses—of scientific work in Germany, it is in this matter of the number of its professional geographers—men with the distinctive point of view which is the essence of modern geography—and the consequent large production of truly geographical literature, that Germany's strength lies.

New Works in General Geography

Owing to this number of workers and owing also, partly, to a conscious division of labor, work is being done in Germany, it may be said, in practically every branch of general geography and on all important regions of the world. The following brief survey can, among the wealth of material, only touch upon some of the more outstanding or typical investigations that have been undertaken recently. In the field of *paleogeography* Dr. Alfred Wegener of the Deutsche Seewarte and the University of Hamburg has in a recent second edition of his book[56] amplified his migration hypothesis of continental origins, an hypothesis that has been widely discussed[57] and that seems to find confirmation in J. P. Koch's work in Greenland and W. Köppen's investigations of isostasy and pole migrations.[58] In *physiography* Professor Passarge of Hamburg has added the third volume, on the development of landforms, to the first (on landscape description) and second (on climatic, vegetational, and animal influences on the landscape) of his four-volume "Die Grundlagen der Landschaftskunde."[59] More concisely, and in a philosophic spirit, Professor Hettner of Heidelberg has recently discussed the evolution of landforms in a book[60] which gathers together and amplifies essays that had appeared in the *Geographische*

[55] Geographische . . . Vorlesungen in deutscher Sprache an den Hochschulen Mitteleuropas im Winterhalbjahr 1921–22, *Petermanns Mitt.*, Vol. 67, 1921, pp. 260–262 (geographers at German universities, 53; at German technical schools, 17; at Austrian universities and technical schools, 15; at German Swiss universities and technical schools, 5).—As to the cultural unity of the German-speaking lands see p. 464. On the general topic indicated in its title see J. Russell Smith: Geography in Germany, II: The University, *Journ. of Geogr.*, Vol. 1, 1902, pp. 448–457.

[56] A. Wegener: Die Entstehung der Kontinente und Ozeane (in series: Die Wissenschaft, Vol. 66), Brunswick, 1920.

[57] *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1921, pp. 89–143 (statement and summing up by Wegener, discussion by four specialists).

[58] W. Köppen: Über Isostasie und die Natur der Kontinente, *Geogr. Zeitschr.*, Vol. 25, 1919, pp. 39–48; Polwanderungen, Verschiebungen der Kontinente, und Klimageschichte, *Petermanns Mitt.*, Vol. 67, 1921, pp. 1–8 and 57–63, with Pl. 1; Ursachen und Wirkungen der Kontinentenverschiebungen und Polwanderungen, *ibid.*, pp. 145–149 and 191–194.

[59] Die Grundlagen der Landschaftskunde: Vol. 1, Beschreibende Landschaftskunde, 210 pp., Hamburg, 1919 (reviewed by W. M. Davis in *Geogr. Rev.*, Vol. 8, 1919, pp. 266–273); Vol. 2, Klima, Meer, Pflanzen- und Tierwelt in der Landschaft, 222 pp., Hamburg, 1920; Vol. 3, Die Oberflächengestaltung der Erde, 558 pp., Hamburg, 1920. Vol. 4, Der Mensch in der Landschaft, is announced for publication later.

[60] Die Oberflächenformen des Festlandes: Ihre Untersuchung und Darstellung, 250 pp., Leipzig, 1921.

Zeitschrift. Frankly critical of Professor Davis' views, the works of these two authors at least show to what extent those views roused and stimulated geographic thought in Germany. Of the German version of Professor Davis' "Physical Geography" a second edition in two volumes has appeared;[61] likewise the first German edition of his "Practical Exercises in Physical Geography."[62] Of Supan's standard textbook of physical geography a sixth edition appeared in 1916.[63] Supan's importance in the development of modern geography in Germany is dwelt upon in two appreciations that appeared at the time of his death in 1920.[64] Attention may also be called to a book on the relation between geological structure and surface features by Professor Karl Sapper, of the University of Würzburg, known for his work in Central America.[65] Of *manuals of general geography* new editions have appeared of part of the standard "Lehrbuch der Geographie"[66] by Professor Hermann Wagner, dean of German geographers and still active at the age of 82,[67] and of the concise and well-balanced textbook[68] by Professor W. Ule of Rostock. An entirely new work is the manual of general geography by Professor A. Philippson, one of the leading geographers of Germany, of which the first part, dealing with mathematical geography and climatology, has just appeared.[69] A valuable feature is a new classification of climatic types and climatic provinces, in text and maps. In the field of *oceanography* there should be mentioned a valuable paper on an hitherto little known region from this point of view, the Persian Gulf.[70] The author, Dr. Gerhard Schott of the Deutsche Seewarte in Hamburg. quickly followed it with a complete geographical discussion of the area,[71] similar in treatment to his admirable "Geographie des Atlantischen Ozeans." In *climatology* Professor L. Mecking of the University of Münster establishes a North Atlantic "see-saw" (*nordatlantische Wärmeschaukel*) from a study of the opposite effect on both sides of the North Atlantic of sun spot frequency (sun spot maximum, lowering of mean annual temperature on American side, raising on European, and vice versa).[72] With Köppen's

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[61] W. M. Davis and Gustav Braun: Grundzüge der Physiographie, 2 vols.: Vol. 1, Grundlagen und Methodik' Leipzig, 1917; Vol. 2, Morphologie, Leipzig, 1915.

[62] W. M. Davis and Karl Oestreich: Praktische Übungen in physischer Geographie, Leipzig, 1918.

[63] Grundzüge der physischen Erdkunde, Leipzig, 1916.

[64] Hermann Wagner: Alexander Supan, *Petermanns Mitt.*, Vol. 66, 1920, pp. 139–146; Bruno Dietrich: Alexander Supan, *Geogr. Zeitschr.*, Vol. 27, 1921, pp. 193–198.

[65] Geologischer Bau und Landschaftsbild (in series: Die Wissenschaft, Vol. 61), Brunswick, 1917 (reviewed in *Geogr. Rev.*, Vol. 11, 1921, pp. 315–317).

[66] Lehrbuch der Geographie, Vol. 1: Allgemeine Erdkunde, Part 1: Einleitung, Mathematische Geographie, 10th edition, Hanover, 1920. Part 2 is in press. The 9th edition of the whole of Vol. 1 appeared in 1912.

[67] See address on his 80th birthday on retirement from chair of geography at University of Göttingen and bibliography (273 titles), *Petermanns Mitt.*, Vol. 66, 1920, pp. 115–122.

[68] Grundriss der allgemeinen Erdkunde, 2nd edition, Leipzig, 1915.

[69] A. Philippson: Grundzüge der allgemeinen Geographie. Vol. 1, Einleitung; Mathematische Geographie; Atmosphärenkunde, 270 pp., Leipzig, 1921.

[70] Ozeanographie und Klimatologie des Persischen Golfes und des Golfes von Oman, 46 pp., Beilage zu *Ann. der Hydrogr. und Marit. Meteorol.*, 1918.

[71] Geographie des Persischen Golfes und seiner Randgebiete, *Mitt. Geogr. Gesell. Hamburg*, Vol. 31, 1918, pp. 1–110, with two maps, one in 1 : 4,000,000.

[72] Nordamerika, Nordeuropa, und der Golfstrom in der elfjährigen Klimaperiode, *Ann. der Hydrogr. und Marit. Meteorol.*, Vol. 46, 1918, pp. 1–9, with temperature and sun-spot frequency curves on Pl. 1.

new climatic provinces[73] readers of the *Review* are already familiar; their areas have recently been measured.[74] Köppen has also recently delimited the wind regions of the world, particularly over the ocean.[75] Noteworthy in *plant geography* are a general discussion of the tundra by Dr. A. Jacobi[76] and a map by Dr. E. Ihne, the well-known phenologist, showing the date of the beginning of spring in the British Isles[77] based on the regular phenological observations in the *Quarterly Journal of the Royal Meteorological Society*. It is an extension of his earlier map of Central Europe.[78] In the field of *human geography* the most important recent publication is Supan's manual of political geography,[79] which discusses the principles of this important branch. A related work is the book[80] by Professor Karl Dove of the University of Freiburg, which deals more with the world-regional aspect of the subject, however. An example of the studies in the history of settlement in which Professor O. Schlüter of Halle specializes is his paper on natural conditions in East Prussia before the incursion of the Teutonic Order.[81] He also discusses the method of population density maps[82] as an introduction to a map of the Rhineland by one of his pupils. The fourth in a series of population density maps covering India,[83] important because relating to the one of the two Asiatic foci for which census statistics exist, has been published. They are products of the geographical seminar in Göttingen. A discussion of man's distribution over the earth[84] by Professor Norbert Krebs of the University of Freiburg, known for his excellent regional geography of the Austrian Alps, constitutes a complete but concise manual of human geography. Professor Dove has also written concise but original manuals of economic and commercial geography.[85] In the field of agricultural geography three atlases[86] have appeared, two by Dr. T. H.

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[73] Klassifikation der Klimate nach Temperatur, Niederschlag, und Jahresverlauf, *Petermanns Mitt.*, Vol. 64, 1918, pp. 193–203 and 243–248, with map, globular scale, 1 : 60,000,000 (see R. DeC. Ward: A New Classification of Climates, *Geogr. Rev.*, Vol. 8, 1919, pp. 188–191, with map).

[74] H. Wagner: Die Flächenausdehnung der Köppenschen Klimagebiete der Erde (1918), *Petermanns Mitt.*, Vol. 67, 1921, pp. 216–217.

[75] Die Windgebiete der Weltmeere, *Ann. der Hydrogr. und Marit. Meteorol.*, Vol. 49, 1921, pp. 357–359, with map in Mercator's projection, equatorial scale, 1 : 100,000,000.

[76] Die Tundra, *Geogr. Zeitschr.*, Vol. 25, 1919, pp. 245–262.

[77] Phänologische Karte des Frühlingseinzugs auf den Britischen Inseln, *Petermanns Mitt.*, Vol. 62, 1916, pp. 81–85, with map in 1 : 5,000,000.

[78] Pl. 9, *Petermanns Mitt.*, Vol. 51, 1905, scale 1 : 3,400,000.

[79] Leitfaden der allgemeinen politischen Geographie, 140 pp., Leipzig, 1918.

[80] Allgemeine politische Geographie, 95 pp. (in series: Sammlung Göschen, No. 800), Leipzig, 1920.

[81] Wald, Sumpf, und Siedelungsland in Altpreussen vor der Ordenszeit, *Geogr. Anzeiger*, Vol. 21, 1920, pp. 245–249, with map in 1 : 500,000.

[82] Grundsätzliche Bemerkungen über Volksdichtekarten, *Petermanns Mitt.*, Vol. 66, 1920, pp. 128–129 (map of Rhineland on Pl. 24, text pp. 159–161).

[83] *Petermanns Mitt.*, as follows: Northwest Provinces, 1 : 3,000,000, 1909, Pl. 18; Upper Gangetic Plain, 1 : 2,500,000, 1911, Pl. 33; Bombay Province, 1 : 2,500,000, 1916, Pl. 33; Southern India, 1 : 2,500,000, 1917, Pl. 32.

[84] Die Verbreitung des Menschen auf der Erdoberfläche (in series: Natur und Geisteswelt, No. 632), Leipzig, 1921.

[85] Allgemeine Wirtschaftsgeographie; Allgemeine Verkehrsgeographie (in series: Sammlung Göschen, Nos. 835 and 834), Leipzig, 1921.

[86] F. Lange: Landwirtschaftlich-Statistischer Atlas, 105 maps, Berlin, 1917; T. H. Engelbrecht: Die Feldfrüchte Indiens in ihrer geographischen Verbreitung, text and atlas, *Abhandl. Hamburg. Kolonialinst.*, Vol. 19,

Engelbrecht, known for his study of the geographical distribution of the price of cereals in North America and India.

Papers Relating to the Development of Geography in Germany

Several publications relating to the development and status of geography in Germany are of interest. In a series of lectures in Berlin on the position of certain subjects in education geography was included. The lectures on geography, ten in number, by different specialists, have been published.[87] They include such topics as the unity of geography, by Hettner; geomorphology, by Philippson; plant and animal geography, by Professor R. Gradmann of the University of Erlangen, and the importance of maps, by Professor Norbert Krebs. Three papers deal with Richthofen, Theobald Fischer, and Kirchhoff as university teachers,[88] two with the courses given at Göttingen and Bonn,[89] while three memorial volumes[90] give an insight into the work of the pupils of Professors Penck, Hettner, and Eduard Hahn. The editor's retrospect over twenty-five years of the *Geographische Zeitschrift*,[91] which has had a marked influence on the development of geographic thought in Germany, may also be mentioned here. The standard German bibliography, the *Geographisches Jahrbuch*, has resumed publication, a volume having appeared which covers the war period.[92]

War Publications

Only to certain outstanding war publications can reference here be made. At the beginning of the war a series of articles by leading geographers was published in the *Geographische Zeitschrift;* these were afterwards issued separately, somewhat revised.[93] Professor Philippson discussed the Franco-Belgian area, Professor Partsch of Leipzig the eastern front, Professor Krebs the Balkan front, Professor F. Frech of Breslau the Armenian and Mesopotamian area, Professor Mecking the Channel, the North Sea, and the

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1914; *idem:* Landwirtschaftlicher Atlas des Russischen Reiches in Europa und Asien, 30 maps, Berlin, 1916.

[87] Die Geographie als Wissenschaft und Lehrfach: Zehn geographische Abende im Zentralinstitut für Erziehung und Unterricht, Berlin, 1919.

[88] A. Philippson: Ferdinand von Richtofen als akademischer Lehrer, *Geogr. Zeitschr.*, Vol. 26, 1920, pp. 257–272; Alfred Rühl: Theobald Fischer als akademischer Lehrer, *ibid.*, Vol. 27, 1921, pp. 29–33; Hans Steffen: Erinnerungen an Alfred Kirchhoff als Methodiker der Geographie und als Universitätslehrer, *ibid.*, Vol. 25, 1919, pp. 289–302.

[89] Hermann Wagner: Der geographische Universitätsunterricht in Göttingen, *ibid.*, Vol. 25, 1919, pp. 1–20 and 97–106; A. Philippson: Die Geographie an der Universität Bonn, *Die Naturwissenschaften*, Vol. 7, 1919, pp. 561–571.

[90] Festband Albrecht Penck, Stuttgart, 1918 (reviewed in *Geogr. Rev.*, Vol. 10, 1920, pp. 249–261); Zwölf länderkundliche Studien von Schülern Alfred Hettners ihrem Lehrer zum 60. Geburtstag, Breslau, 1921; Festschrift Eduard Hahn zum 60. Geburtstag, Stuttgart, 1917.

[91] Alfred Hettner: Fünfundzwanzig Jahre "Geographische Zeitschrift," *Geogr. Zeitschr.*, Vol. 26, 1920, pp. 1–8.

[92] Vol. 38 for 1915–18, Gotha, 1918–20.

[93] A. Hettner, edit.: Die Kriegsschauplätze, Leipzig, 1915–18.

Baltic. During the German occupation of Poland a Geographical Commission was appointed under the direction of Professor M. Friederichsen of the University of Königsberg, later of Dr. E. Wunderlich, at present at the School of Technology in Stuttgart on leave of absence from the University of Berlin. After preliminary publications, which included a discussion of each aspect of Russian Poland's geography, culminating in its division into natural regions,[94] a handbook was issued which constitutes a scientific regional geography of the area.[95] This was followed by a series of separate monographs, a number of which, on the vegetation of Russian Poland, on the cities of Poland and Lithuania, on the geographical source material on Poland, etc., were published[96] and others projected. Of none of the other areas occupied by the Germans was so systematic an investigation undertaken, partly because of the march of events, although Geographical Commissions were appointed in Rumania and Macedonia. Nevertheless good geographical work was carried out, as by Dr. W. Behrmann of Berlin in Rumania[97] and Dr. Walther Penck, who for a time was professor of geography at the University of Constantinople, in the Bosporus region and Asia Minor.[98] Professor Friederichsen had preceded his Polish work by an excellent little book on the marginal regions of Russia.[99] The campaigns in German Southwest Africa[100] and German East Africa[101] have been discussed from the geographical standpoint. Several articles deal with war mapping and its geographical bearing.[102] An important work which had been prepared by the German War Office before the war, but which was only released to the public after the conflict, is a contoured topographic map on the scale of 1 : 100,000 in 326 sheets of Russian Poland and the Baltic Provinces.[103] It was based on a Russian map not made public in 1 : 42,000 and 1 : 84,000, reductions of the original plane table sheets in

[94] E. Wunderlich, K. Siche, F. Pax, Ferdinand Pax, Arved Schultz, H. Praesent: Die natürliche Gliederung Polens, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1917, pp. 269–310 and 446–456.

[95] E. Wunderlich, edit.: Handbuch von Polen (Kongress-Polen): Beiträge zu einer allgemeinen Landeskunde, 2nd edit., Berlin, 1918 (reviewed in *Geogr. Rev.*, Vol. 9, 1920, pp. 215–216).

[96] Veröffentlichungen der Landeskundlichen Kommission beim Kaiserlich Deutschen Generalgouvernement Warschau: Beiträge zur Polnischen Landeskunde: Reihe A (Fachwissenschaftliche Monographieen als Ergänzungen zum Handbuch), No. 1; Reihe B (Für weitere Kreise bestimmte Einzelschriften), Nos. 1–6, Berlin, 1917–18.

[97] Die Landschaften Rumäniens, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1919, pp. 29–45, with physiographic map.

[98] E. g. Grundzüge der Geologie des Bosporus, *Veröffentl. Inst. für Meereskunde Univ. Berlin; N. F., Geogr.-naturwiss. Reihe No. 4*, Berlin, 1919; Bau und Oberflächenformen der Dardanellenlandschaft, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1917, pp. 30–49; Zur Landeskunde von Thrazien, *ibid.*, 1919, pp. 358–370.

[99] Die Grenzmarken des Europäischen Russlands: Ihre geographische Eigenart und ihre Bedeutung für den Weltkrieg, Hamburg, 1915 (reviewed in *Geogr. Rev.*, Vol. 1, 1916, pp. 473–474).

[100] Fritz Jaeger: Deutsch Südwest-Afrika als Kriegsschauplatz, *Geogr. Zeitschr.*, Vol. 26, 1920, pp. 201–206.

[101] E. Krenkel: Der ostafrikanische Kriegsschauplatz, *ibid.*, pp. 105–117, with map; Gov. Schnee: Deutsch-Ostafrika während des Weltkrieges, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1919, pp. 1–17.

[102] Max Eckert: Die Kartographie im Kriege, *Geogr. Zeitschr.*, Vol. 26, 1920, pp. 273–286, 316–324, Vol. 27, 1921, pp. 18–28; *idem:* Luftbildaufnahme und Kartenherstellung, *ibid.*, Vol. 27, 1921, pp. 241–260; E. Fels: Das Kriegsvermessungswesen in Dienste der Geographie, *Petermanns Mitt.*, Vol. 65, 1919, pp. 81–89; E. Ewald: Die Flugzeugphotographie im Dienste der Geographie, *ibid.*, Vol. 66, 1920, pp. 1–6.

[103] Karte des westlichen Russlands, 1 : 100,000, 326 sheets. Bearbeitet von der Kartographischen Abteilung der Landesaufnahme. Index map in 1 : 2,750,000, in catalogue entitled "Karten und wissenschaftliche Veröffentlichungen der Landesaufnahme," Berlin, 1920. Sections from this map will be found in "Handbuch von Polen," 2nd edit., Pls. 1, 2, 4, 5, 7.

1 : 21,000,[104] and formed a direct continuation, on the same scale, of the topographic map of Germany. It is understood that both armies, the Russian and the German, fought by it, the former by the original, the latter by the recompilation.

Work in Regional Geography

In the field of regional geography several systematic works may be mentioned. With different emphasis Professors W. Ule and Gustav Braun have treated the geography of Germany.[105] In a shorter work on a related topic[106] Professor Braun has outlined the methods followed in the larger book. In the model series of regional geographies edited by Professor Penck, which began with Professor Krebs's excellent book on the Austrian Alps,[107] a second volume has appeared, by Professor Machatschek of Prague, on Russian Turkestan (see footnote 382). Volumes are contemplated, it is understood, on the East Indies by Professor W. Volz of Breslau, on the Aegean region by Professor Philippson, and on the Low Countries by Professor Oestreich of Utrecht. Professor Hettner, always a strong advocate of regional geography as the main aim of geographical investigation—a conviction shared by the majority of leading geographers of Germany—will soon publish the section on Asia in his standard "Grundzüge der Länderkunde." At the same time abridged editions of this and the previously published section on Europe will appear. His geography of Russia, originally published in 1905, has appeared much enlarged in a third edition.[108] Early in the war Professor Philippson published a brief geography of Turkey[109] which has been characterized as exemplary. He has recently published a series of maps in 1 : 900,000, with notes, summarizing the results of his comprehensive studies in western Asia Minor. They show relief, physiography, vegetation, and ethnography.[110] In this connection mention should be made of a map of Asiatic Turkey, with substantiating text, showing the status of topographical knowledge of that area in 1914.[111] It shows in greater detail, both as to quality of survey and scale, what was represented on an

[104] Handbuch von Polen, 2nd edit., pp. 24–25.

[105] W. Ule: Das Deutsche Reich: Eine geographische Landeskunde, Leipzig, 1915; G. Braun: Deutschland, dargestellt auf Grund eigener Beobachtung, der Karten, und der Literatur, 1 vol. text, 1 vol. maps and diagrs., Berlin, 1916 (reviewed in *Geogr. Rev.*, Vol. 10, 1920, pp. 52–53).

[106] Mitteleuropa und seine Grenzmarken: Ein Hilfsbuch für geographische Studien und Exkursionen (in series: Wissenschaft und Bildung, No. 141), Leipzig, 1917.

[107] Länderkunde der österreichischen Alpen, Stuttgart, 1913 (reviewed in *Geogr. Rev.*, Vol. 2, 1916, pp. 317–319).

[108] Russland: Eine geographische Betrachtung von Volk, Staat, und Kultur: Dritte erweiterte Auflage des Werkes "Das europäische Russland," Leipzig, 1916.

[109] Das türkische Reich: Eine geographische Übersicht (in series: Deutsche Orient Bücherei, No. 12), Weimar, 1915.

[110] In *Petermanns Mitt.*, as follows: relief in altitude tints, Vol. 67, 1921, Pl. 9 (text p. 123); physiography, Vol. 66, 1920, Pl. 31 (text, pp. 197–202); vegetation, Vol. 65, 1919, Pl. 18 (text, pp. 168–173, 204–207); ethnography, *ibid.*, Pl. 3 (text pp. 17–19).

[111] H. Fischer: Geschichte der Kartographie von Vorderasien, *Petermanns Mitt.*, Vol. 66, 1920, pp. 82–89, 164–166, 203–205, 219–225, with map in 1 : 3,700,000.

earlier map by Dr. Hogarth.[112] A considerable portion of the area correctly marked on the present map as unexplored or based on reconnaissance maps only, especially in Armenia and Kurdistan, has since been covered by the valuable contoured topographic map in 1 : 200,000, based on original surveys, which was published by the Turkish General Staff during the war. Germany's interest in the geography of her Near Eastern ally is further betokened by a book by E. Banse,[113] with which readers of the *Review* are familiar from its division of the area into natural regions, and by one by Professor Kurt Hassert of the Polytechnic Institute of Dresden, which emphasizes the economic geography.[114] Among a younger group of geographers who have specialized in certain regions from personal observation may be mentioned Professor F. Thorbecke of the University of Cologne, the publication of the results of whose travels in Cameroons have recently been completed;[115] Dr. Leo Waibel, also of Cologne, who has caught the spirit of the South African veld;[116] Dr. Arved Schultz, who knows the Pamir and Turkestan;[117] and Dr. Richard Pohle, who deals with Eastern Europe and Siberia.[118] The late Professor Emil Deckert of the University of Frankfort contributed two studies during the war in his special field, the economic geography of the Anglo-Saxon world.[119] Professor Hassert has also recently written an economic geography of the United States,[120] in the preparation of which he had the assistance of Dr. Martha Krug Genthe, the German geographer who lived for a time in the United States. Of the geography of South America by Professor W. Sievers of the University of Giessen, the leading German authority on that subject, who died in June 1921,[121] a third edition appeared in 1914.[122] A new (tenth) edition of Stieler's atlas is in preparation[123] which involves a thorough revision;

[112] D. G. Hogarth: Problems in Exploration: I, Western Asia, *Geogr. Journ.*, Vol. 32, 1908, pp. 549–570, with map in 1 : 10,000,000.

[113] Die Türkei: Eine moderne Geographie, with map in 1 : 5,000,000, Brunswick, 1919 (see E. C. Semple: The Regional Geography of Turkey: A Review of Banse's Work, *Geogr. Rev.*, Vol. 11, 1921, pp. 338–350, with map, 1 : 7,000,000).

[114] Das Türkische Reich, politisch, geographisch, und wirtschaftlich, Tübingen, 1918.

[115] Im Hochland von Mittel-Kamerun, in 3 parts, *Abhandl. Hamburg. Kolonialinst.*, Vols. 21, 36, 41, Hamburg, 1914, 1916, 1919. See also his Das tropische West- und Mittel-Afrika, *Geogr. Zeitschr.*, Vol. 21, 1915 pp. 372–394 and 443–453.

[116] Der Mensch im südafrikanischen Veld, *Geogr. Zeitschr.*, Vol. 26, 1920, pp. 26–50 and 79–89; see also his book Urwald, Veld, Wüste, 206 pp., Breslau, 1921.

[117] E.g. Landeskundliche Forschungen in Pamir, *Abhandl. Hamburg. Kolonialinst.*, Vol. 33, 1916; Die natürlichen Landschaften von Russisch Turkestan, *Abhandl. aus dem Gebiet der Auslandskunde, Hamburg. Univ.* (continuation of preceding series), Vol. 2, 1920 (reviewed in *Geogr. Rev.*, Vol. 12, 1922, pp. 151–152).

[118] R. Pohle and H. Heyde: Völkerkarte von Osteuropa, 1 : 6,000,000, Berlin, [1919]; R. Pohle: Beiträge zur Kenntnis der westsibirischen Tiefebene, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1918, p. 1 ff., 1919, pp. 395–442; *idem:* Sibirien als Wirtschaftsraum, 66 pp., Bonn, 1921 (reviewed in *Geogr. Rev.*, Vol. 12, 1922, pp. 149–151).

[119] Die Länder Nordamerikas in ihrer wirtschaftsgeographischen Ausrüstung, Vienna, 1916; Das britische Weltreich: Ein politisch- und wirtschaftsgeographisches Charakterbild, Vienna, 1916.

[120] Die Vereinigten Staaten von Amerika als politische und wirtschaftliche Weltmacht geographisch betrachtet, 315 pp., Tübingen, 1922.

[121] See biographical notice in *Petermanns Mitt.*, Vol. 67, 1921, p. 163.

[122] Süd- und Mittelamerika (in series: Allgemeine Länderkunde edit. by W. Sievers), 3rd edit., Leipzig, 1914 (reviewed in *Geogr. Rev.*, Vol. 6, 1918, p. 459).

[123] H. Haack: Die Hundertjahr-Ausgabe von Stielers Handatlas, *Petermanns Mitt.*, Vol. 67, 1921, pp. 19–22, with sample map on Pl. 3.

for instance, the sheets for the United States are being redrawn from reductions of the topographic sheets of the U. S. Geological Survey where available. A new (seventh) edition has also appeared of Andree's Handatlas; likewise Danish-Norwegian and Swedish editions.

Post-War Arrangements

After a lapse of seven instead of the customary two years the twentieth Meeting of German Geographers was held in Leipzig in May, 1921.[124] The majority of the topics discussed in the papers presented have already, in mentioning the work of various geographers, been indirectly touched upon. Reference to several arrangements resulting from post-war conditions may, however, be of interest. For greater economy of effort and better co-operation a union of all the German and Austrian geographical societies has been created. Similarly, resolutions were passed to establish a central clearing house for foreign periodicals, from which each institution not receiving certain series and unable to subscribe for them may borrow the desired publications. As to German production, at least doctor's dissertations are curtailed for the present, as the universities have, because of the high cost, waived the requirement that they be printed. Another resolution passed calls on German map publishers to show the territories lost by Germany, including her former colonies, on all maps of the relevant areas, including school maps. In connection with the meeting there was an exhibition at the Deutsche Bücherei, a new library building which was built in 1913–16 to accommodate all publications in German from 1913 on. Two special publications deal with the map collection of the library and with the map exhibits prepared for the meeting.[125]

Italy

Of two of the four countries of Europe which lead in geography we now have excellent modern accounts of the development of the subject: one, concise, on France, by Professor de Martonne, to which reference has already been made;[126] the other, somewhat fuller, on Italy, by Professor Roberto Almagià of the University of Rome.[127] Each contains an invaluable list of the most important contributions to geography produced in that country; the works thus grouped together for each country practically constitute the body of its modern geographic thought. Professor Almagià's book makes it unnecessary here even to outline Italy's development, so illuminating

[124] For an account see P. Langhans and H. Degner: Die 20. Tagung des Deutschen Geographentages zu Leipzig in der Pfingstwoche, 1921, *Petermanns Mitt.*, Vol. 67, 1921, pp. 117–122 and 150–152.

[125] Hans Praesent, edit: Beiträge zur deutschen Kartographie, im Auftrage der Deutschen Bücherei herausgegeben, 160 pp., Leipzig, 1921; Geographische Ausstellung des Deutschen Buchgewerbevereins, mit Beiträgen zur Entwicklung des Hand- und Schulatlas, des Reisehandbuches, und des geographischen Schulbuches, 57 pp., Leipzig, 1921.

[126] Under "France," footnote 35.

[127] La geografia (series: Profili Bibliografici de l'Italia Che Scrive), 109 pp., Istituto per la Propaganda della Cultura Italiana, Rome, 1919.

and so encouraging for other countries that are striving to reach a higher status in our subject. Suffice it here to say that, as in France, this development centers mainly about one man, Giuseppe Dalla Vedova.[128] Like his French contemporary, Vidal de la Blache, he had the satisfaction of seeing his work carried on in the hands of his pupils—and these include the majority of the men who are advancing the subject in Italy today. He died in 1919 at the age of 85.[129] Another who helped usher in the new movement was Giovanni Marinelli (1846–1900),[130] known for his comprehensive compendium of general and regional geography ("La Terra," 8 vols., Milan, 1883–1901). The second volume of his collected papers, [131] on the geography of Italy and pedagogical questions, has recently appeared.

Geography is represented at twelve of Italy's universities. This practically constitutes the maximum number possible, as, in its modern aspect as a unit subject, it comes under the jurisdiction of the Faculty of Letters and, of the twenty-one Italian universities (including the four "free" universities), nine have no Faculty of Letters. One of the twelve (Parma) has no geography in the Faculty of Letters; the subject is there only represented as physical geography in the Faculty of Science. Except for this vacancy, geography enjoys maximum representation at the universities. In addition it is taught at several other higher institutions. This condition is indicative of the high state of development of geography in Italy.

Geography in Rome

At the University of Rome Professor Almagià occupies the chair of geography.[132] He is a pupil of Dalla Vedova and has been productive in many branches of geography, but more particularly on the historical and human sides. He has written on the theory of tides in antiquity and the Middle Ages and dealt with the history of Italian cartography.[133] Among

[128] A selection from his works, with a complete list of his writings to 1912 is given in: Giuseppe Dalla Vedova: Scritti geografici (1863–1913) scelti, coordinati, e ripubblicati a cura d'un comitato di geografici, Novara and Rome, 1914. His last work should also be consulted: La geografia nella vita e nella scuola moderna, *Nuova Antologia*, August, 1918. Some of the work of his pupils is illustrated in the memorial volume on the fiftieth anniversary of his career as a teacher: Scritti di geografia e di storia della geografia concernenti l'Italia pubblicati in onore di Giuseppe Dalla Vedova, Florence, 1908.

[129] For biographies see Filippo Porena: Giuseppe Dalla Vedova, *Geographen Kalender*, Vol. 5, 1907, Gotha, pp. 2–27; *idem:* L'Opera di Giuseppe Dalla Vedova, in the memorial volume mentioned in the preceding footnote, pp. ix–xxxi; L. F. De Magistris: Giuseppe Dalla Vedova, 16 pp., *Calendario-Atlante De Agostini* for 1914, Novara, 1914; Roberto Almagià: Giuseppe Dalla Vedova, *Boll. Reale Soc. Geogr. Ital.*, Vol. 57, 1920, pp. 31–50.

[130] Cf. the biography by Attilio Mori, *Riv. Geogr. Didatt.*, Vol. 1, 1917, No. 1, in the series published by that journal on the leading geographers of the last fifty years.

[131] Scritti minori di Giovanni Marinelli: Vol. 1, Metodo e storia della geografia, Florence, 1908; Vol. 2, Geografia italiana e questione didattiche, Florence, 1921.

[132] On the geography department at Rome cf. Roberto Almagià: Il gabinetto di geografia della R. Università di Roma, 13 pp., Città di Castello, 1921. On his appointment to the chair in Rome see *La Geografia* (Novara), Vol. 4, 1916, pp. 146–147. The reports of the nominating committees there reproduced (pp. 140–147) from the official bulletin of the Ministry of Public Instruction give an insight into the work of several of the leading geographers at the universities.

[133] La dottrina della marea nell'antichità classica e nel Medio Evo, 139 pp., *Mem. Reale Accad. Lincei: Classe Sci. Fis.*, Rome, 1905; La cartografia dell' Italia nel Cinquecento, *Riv. Geogr. Ital.*, Vol. 21, 1914, pp. 640–653; Vol. 22, 1915, pp. 1–26.

his recent publications are a succinct life of Columbus treated in a geographical manner,[134] and a paper on the content of human geography.[135] Lectures on meteorology are given at the university by Dr. Filippo Eredia of the Italian Meteorological Office, who has recently written on the climate of Tripoli and the rainfall of Palestine.[136] The representative of geography at the Normal School in Rome, Professor Assunto Mori, has made a distinctive contribution in publishing a systematic atlas in which the various elements of geography, such as relief, climate, human distribution, economic conditions are represented both as general phenomena and in their application to different regions. The volume so far published[137] covers general geography and western and southern Europe.

Florence as a Geographical Center

Florence is one of the most important geographical centers in Italy. At the Institute of Higher Studies geography is represented by Professor Olinto Marinelli, son of Giovanni Marinelli, and known for his numerous and fruitful investigations. As joint editor, with Professor Attilio Mori of the University of Messina, of the *Revista Geografica Italiana*, he has exercised great influence on the development of modern geography in Italy. Of his numerous recent publications there can only be mentioned two physiographic studies,[138] several papers dealing with the conception of the natural region,[139] a paper on the peoples of the contact zone of northern Italy from Nice to the Quarnero,[140] an economic classification of cities,[141] and a history of the development of isometric lines, such as isotherms, etc.[142] Associated with Professor Marinelli are Professors Sebastian Crinò and Luigi Giannitrapani. Professor Crinò, author of an anthropogeographic study of Etna,[143] is the editor of a new journal devoted to the teaching of geography, *Rivista di Geografia Didattica*, which has appeared since 1917. A paper of his on the distribution of population over the earth[144] may be noted. Professor

[134] Cristoforo Colombo (in series: Profili), 78 pp., Rome, 1918.

[135] La geografia umana, *La Geografia*, Vol. 4, 1916, pp. 366–387.

[136] Climatologia di Tripoli e Bengasi, *Monogr. e Rapp. Colon. No. 4*, Rome, 1917; Le precipitazioni acquee in Palestina, *Boll. Reale Soc. Geogr. Ital.*, Vol. 57, 1920, pp. 259–270.

[137] Atlante di geografia fisica, politica, ed economica: Fascicolo 1, 18 plates with over 300 maps and diagrs., Turin, etc., 1918.

[138] La regione del Monte Amiata, *Mem. Geogr. No. 39*, Florence, 1919; Fenomeni carsici nelle regione gessose d'Italia, *ibid. No. 34*, 1917.

[139] Sul concetto di regione naturale, *Riv. Geogr. Didatt.*, Vol. 4, 1920, No. 5; Il Friuli come tipo di regione naturale, *ibid.*, Vol. 1, 1917; Sopra le regioni ed i confini naturali con particolari cenni relativi all'Italia, Appendix 1 (pp. 114–122) to a general paper on the geographical situation in Italy: La geografia in Italia, *Riv. Geogr. Ital.*, Vol. 23, 1916, pp. 1–24 and 113–131.

[140] The Regions of Mixed Populations in Northern Italy, *Geogr. Rev.*, Vol. 7, 1919, pp. 129–148, with ethnographic map, 1 : 1,500,000.

[141] Dei tipi economici dei centri abitati a proposito di alcune città italiane ed americane, *Riv. Geogr. Ital.*, Vol. 23, 1916, pp. 413–431.

[142] Appunti storici e didattici sulle curve isometriche, *Riv. Geogr. Didatt.*, Vol. 4, 1920, No. 6; Vol. 5, 1921, No. 1.

[143] L'Etna: Saggio antropogeografico, 28 pp., Messina, 1907.

[144] Osservazioni intorno alla distribuzione della popolazione sulla superficie terrestre, *Riv. Geogr. Didatt.*, Vol. 1, 1917.

Giannitrapani, author of a regional monograph on Savoy,[145] has dealt with the methods of study of regional geography.[146] Florence is also the headquarters of the Istituto Geografico Militare, which, under the energetic direction of General N. Vacchelli, is making valuable contributions to geography even beyond its regular output of topographic and other maps. In 1920 this office began the publication of a monthly journal called *L'Universo*, which contains geographical articles of general interest, more especially dealing with mapping. Among articles of the latter type, for example, has appeared one on material of such relatively difficult access as the topographic maps of Turkey.[147] This appropriateness of Florence made it the city that was chosen for the eighth Italian Geographical Congress, which was held there from March 29 to April 23, 1921.[148] No congress had been held since 1910, in Palermo. Dr. F. de Filippi spoke on the publication of the results of the Duke of Abruzzi's expedition to the Karakorum.[149] Count Cesare Calciati, who is a pupil of Professor Girardin of Fribourg, Switzerland, reported on his recent glacial studies during the expedition to the Himalayas under the auspices of M. Piacenza.[150] Professor Marinelli outlined the plan of a comprehensive physical and anthropological atlas of Italy, and the Italian Touring Club, well known for the publication of an admirable map of Italy in 1 : 250,000 and detailed provincial guide books of Italy, exhibited the first sheets of the large general atlas which it is bringing out.[151]

Other University Geographers

Among other leading geographers at the universities should be mentioned Professor Giotto Dainelli of Pisa, editor of *Memorie Geografiche*, the series of monographs supplementary to the *Revista Geografica Italiana*, to which he has himself recently contributed an excellent discussion, valuable from the standpoint of method, of population distribution in Tuscany,[152] besides publishing a regional study of Dalmatia with accompanying atlas;[153] Professor Carlo Errera of the University of Bologna, known for his history of the age of discovery, who has recently studied the Italian-Slav contact zone on the eastern side of the Adriatic[154] and published an excellent concise

[145] La Savoia: Monografia geografica, *Boll. Reale Soc. Geogr. Ital.*, Vol. 52, 1915, pp. 31–68.

[146] Il metodo negli studi di geografia regionale, *Riv. Geogr. Ital.*, Vol. 26, 1919, pp. 1–27. See also his: Monografie regionali, *Riv. Geogr. Didatt.*, Vol. 1, 1917, No. 4.

[147] Il Servizio Topografico nell' Impero Ottomano e la moderna cartografia turco, *L'Universo*, Vol. 1, 1920, pp. 127–136, with several maps, including indexes of the 1 : 25,000–50,000 and 1 : 200,000 series (cf. p.448, top).

[148] *Riv. Geogr. Ital.*, Vol. 28, 1921, pp. 1–8; Roberto Almagià, *Petermanns Mitt.*, Vol. 67, 1921, p. 129.

[149] La spedizione nel Karakorum e nell' Imalaja occidentale, 1909: Relazione dell Dott. Filippo de Filippi, illustr. di Vittorio Sella, 1 vol. text and case of panoramas and maps, Bologna, 1920).

[150] Cesare Calciati: Cenno sui risultati geografici della spedizione Mario Piacenza in Himalaja, Milan, 1921, with map, 1 : 100,000, of glaciers explored.

[151] R. Almagià: Un grande atlante geografico italiano, *Riv. Geogr. Ital.*, Vol. 24, 1917, pp. 353–357; L. V. Bertarelli: L'attività geografica del Touring Club Italiano nel decennio 1910–20; Il grande Atlante Internazionale del T. C. I. (Nota per l'VIII Congr. Geogr. Ital.), 32 pp., Florence, 1921.

[152] La distribuzione della popolazione in Toscana, *Mem. Geogr. No. 33*, 260 pp., Florence, 1917, with 3 maps showing population in relation to area and altitude, and the location and size of agglomerations.

[153] La Dalmazia, 1 vol. text, 73 pp., and atlas of 22 plates with 60 maps, Novara, 1918.

[154] Italiani e Slavi nella Venezia Giulia, *Quaderni Geogr. No. 9*, Novara, 1918; La lingua dei pubblici uffici nei comuni dalmati trent' anni fa, *Riv. Geogr. Ital.*, Vol. 27, 1920, pp. 47–53.

account of Italy and its regions;[155] Professor Arrigo Lorenzi of Padua, whose latest anthropogeographical study deals with man and the forest,[156] and Professor Luigi De Marchi of the same university, who has recently added a concise manual of physical geography[157] to his earlier comprehensive treatise on that subject[158] and written a valuable discussion of the karst hydrography of the Asiago Plateau;[159] Professor Attilio Mori of Messina, who deals with population distribution in Sicily;[160] Professor C. Colamonico of Naples, who has made intensive studies of the population of the provinces of Puglia and Lecce in relation to elements of physical geography;[161] Professor Cosimo Bertacchi of Turin, who recently wrote a short paper on Armenia;[162] Professor Mario Baratta of Pavia, editor of the excellent educational journal *La Geografia*, who has recently added to his general studies of the "natural" eastern boundary of Italy in the Karst region[163] an investigation of the critical Adelsberg area.[164]

At the Accademia Scientifico-Letteraria of Milan geography is represented by Professor Giuseppe Ricchieri, who has long devoted himself to developing the methods of geography. During the war he published a paper on the geographical basis of Poland.[165] Associated with him as instructor is Paolo Revelli, who has recently written a paper on Italian influence in the development of political geography as a science[166] and a book on the relation of Italy to the Levant.[167]

Recent Publications

The following topics of other recent publications will, like the work of the men just discussed, illustrate the high state of development of geography in Italy: the glacier-slip on the Italian side of Mont Blanc in November, 1920;[168] forests in relation to stream flow (based on H. M. Chittenden);[169] the historical development, content, and present tendencies of plant geography,[170] and the phytogeographical and zoögeographical position of the

[155] L'Italia e le sue regioni, 40 pp., Bologna, 1919.

[156] L'uomo e le foreste, *Riv. Geogr. Ital.*, Vol. 25, 1918, pp. 141–180, 213–242, Vol. 26, 1919, pp. 47–57.

[157] Geografia fisice e geologia, 244 pp., Milan, 1917.

[158] Trattato di geografia fisica, 503 pp., Milan, 1902.

[159] Sull' idrografia carsica dell' Altipiano dei Sette Comuni, *Ufficio Idrogr. Pubbl. No. 22*, Venice, 1911.

[160] La distribuzione della popolazione in Sicilia e le sue variazoni negli ultimi quattro seculi, *Mem. Geogr. No. 36*, Florence, 1920.

[161] La distribuzione delle popolazione nella Puglia centrale e meridionale secondo la natura del suolo, *Boll. Reale Soc. Geogr. Ital.*, Vol. 53, 1916, pp. 201–234, 274–305, 403–429; La distribuzione della popolazione in Puglia secondo la distanza dal mare, *ibid.*, Vol. 55, 1918, pp. 373–393, 597–622, 760–780; Zona di piovosità e densità di popolazione nella provincia di Lecce, *Riv. Geogr. Ital.*, Vol. 24, 1917, pp. 161–180.

[162] L'Armenia: Una Polonia asiatica, *Quaderni Geogr. No. 2*, Novara, 1918.

[163] Confine orientale d'Italia, *Quaderni Geogr. No. 3*, Novara, 1918, with two maps, 1 : 500,000 and 1 : 250,000.

[164] La circolazione interna delle acque ed il confine orientale d'Italia, *La Geografia*, Vol. 8, 1920, pp. 124–145 (the region dealt with is shown on the 1 : 250,000 map of the publication listed in the preceding footnote).

[165] Le basi geografiche della nazione polacca, *Boll. Soc. Geogr. Ital.*, Vol. 53, 1916, pp. 306–322 and 385–402.

[166] Le origini italiane delle geografia politica, *Boll. Soc. Geogr. Ital.*, Vol. 55, 1918, pp. 118–129, 221–240, 394–416, 623–636, 728–759, Vol. 56, 1919, 230–243, 279–308, 395–422.

[167] L'Italia e il mar di Levante, 234 pp., Milan, 1917.

[168] U. Valbusa: La catastrofe del Monte Bianco e del Ghiacciaio della Brenva, *Boll. Soc. Geogr. Ital.*, Vol. 58, 1921, pp. 95–114, 151–162, with photographs.

[169] A. Scala: Influenza del bosco sul regime delle acque, *ibid.*, pp. 205–224.

[170] A. Béguinot: La fitogeografia: Sviluppo storico, contenuto, e direttive moderne, *La Geografia*, Vol. 6, 1918, pp. 322–346 and 435–465.

Adriatic region[171] (two papers of Professor Augusto Béguinot, botanist at the University of Padua); pastoral-agricultural life, *transhumance*, and provincial fairs in Piedmont;[172] the diminution of population in Basilicata;[173] mountains as language divides,[174] by Professor Francesco Musoni of the University of Padua; and the regional geography of Transcaucasia.[175]

In the field of cartography[176] mention should be made of a new advanced school atlas[177] published by the well-known Istituto Geografico De Agostini, under the editorship of its scientific director, Dr. Luigi Visintin, who studied under Brückner. A Brazilian edition of this atlas has also appeared. Achille Dardano of the Cartographic Office of the Ministry of Colonies has recently designed a symmetrical-elliptical projection for world economic maps.[178] A report on topographic mapping in Cyrenaica is of interest.[179]

Spain [180]

At the Spanish universities the dualistic conception of geography may be said to prevail, "political and descriptive geography" being taught in the Faculty of Philosophy and Letters, and "cosmography and geophysics" in the Faculty of Science. The really essential part of the subject is that taught in the Faculty of Letters;[181] it here comes under the history section. The fact that the completion of studies in this section conferred upon the graduate (*licenciado*) the title of professor of history and geography in the secondary schools and that this led to overburdening the teacher and neglecting geography[182] brought about a movement for the separation of the

[171] *Idem:* L'ipotesi dell' "Adria" nei rapporti con la corologia delle piante e degli animali, *ibid.*, Vol. 5, 1917, pp. 188–207.

[172] G. B. Roletto: Ricerche antropogeografiche sulla Val Pellice, *Mem. Geogr. No. 35*, Florence, 1918 (noticed in *Geogr. Rev.*, Vol. 7, 1919, pp. 265–266); La Valle dell' Orsigna: Appunti di geografia antropica ed economica, *Riv. Geogr. Ital.*, Vol. 23, 1916, pp. 432–440, Vol. 24, 1917, pp. 24–38; La transumanza in Piemonte, *ibid.*, Vol. 27, 1920, pp. 114–120, with map; La zona pastorale delle Valli di Lanzo, *La Geografia*, Vol. 9, 1921, pp. 1–25; Le condizione geografiche delle fiere di Pinerolo, *ibid.*, pp. 99–135.

[173] Paolo De Grazia: La diminuzione delle popolazione in Basilicata, *Boll. Soc. Geogr. Ital.*, Vol. 58, 1921, pp. 411–440 and 525–553.

[174] F. Musoni: Le linee di cresta dei sistemi montagnosi ed i confini delle aree etnico-linguistiche, *Riv. Geogr. Ital.*, Vol. 25, 1918, pp. 166–180.

[175] Silvio Govi: Transcaucasia, *L'Universo*, Vol. 1, 1920, pp. 295–319, Vol. 2, 1921, pp. 5–40, 81–120, with maps of the Caucasus region, mainly in 1 : 4,000,000, showing geology, relief, hypsometry, drainage, climate, precipitation, temperature, ethnography, types of cultivation, mineral resources, population density.

[176] See R. Almagià: La cartografia in Italia, *Riv. Geogr. Ital.*, Vol. 24, 1917, pp. 244–254.

[177] Atlante geografico metodico, 63 plates, Novara, 1921.

[178] Le proiezioni in planisfero per le carte di geografia economica, *La Geografia*, Vol. 7, 1919, pp. 24–41, with four world maps, 1 : 200,000,000, in Mollweide's, Aitoff's, Hammer's, and Dardano's projections.

[179] G. Gianni: I lavori topografici in Cirenaica, *L'Universo*, Vol. 1, 1920, pp. 387–406, with maps.

[180] On the recent development of geography in this country, see the last chapters in Becker's history of geography in Spain cited in footnote 188 and the relevant papers cited in the footnotes that follow. Among expressions of foreign thought exerting an influence on this development it is of interest to note W. S. Tower's paper on Scientific Geography in *Bull. Amer. Geogr. Soc.*, Vol. 42, 1910, pp. 801–825, which was translated in *Bol. Real. Soc. Geogr.*, Madrid, Vol. 53, 1911, pp. 129–169, by Vicente Vera, who, on Professor Beltrán y Rózpide's inability to come, was substituted as Spain's representative on the American Geographical Society's Transcontinental Excursion of 1912, but was likewise unable to attend (*Rev. de Geogr. Colon. y Mercantil*, publ. by Real Soc. Geogr., Madrid, Vol. 9, 1912, pp. 196–197 and 492–493).

[181] For this reason the universities at which only "cosmography and geophysics" are represented (Granada, Oviedo, Salamanca) are not shown on the accompanying map.

[182] Cf. G. M. Vergara: Las cátedras de geografía é historia de los institutos, *Rev. de Geogr. Colon. y Mercantil*, Vol. 8, 1911, pp. 121–123.

two subjects.[183] In 1914 geography and history were by royal decree established as separate subjects of study at the reorganized normal schools; likewise at the Instituto del Cardinal Cisneros of Madrid. In 1915, on the reorganization of the higher commercial studies, a professorship in geography was created at the Escuela Central de Intendentes Mercantiles in Madrid.

In this advancement of geography in Spain much is due to the activities of the Council of the Royal Geographical Society of Madrid, and particularly of its secretary-general, Don Ricardo Beltrán y Rózpide. His report to the Minister of Education in 1913 on the teaching of geography[184] is one of the important documents of the reform movement. Professor Beltrán y Rózpide is also professor of geography at the Escuela de Estudios Superiores del Magisterio in Madrid. Of his guide to the study of geography a new edition has recently appeared.[185] Among others who have contributed to modernizing geography in Spain are: Professor Odón de Buen, effective protagonist of our subject,[186] to whose efforts is due the creation in 1914 of the Instituto Español de Oceanografía in Madrid,[187] with maritime laboratories in the Balearic Islands and at Málaga and Santander; Jerónimo Becker of the Academy of History, author, among other fundamental works, of a comprehensive history of geography in Spain down to modern times;[188] Professor Eloy Bullon of the University of Madrid, who contributed a paper on the present state of geography in Spain;[189] A. Bartolomé y Más, professor of the industry and commerce of Spain at the aforementioned Escuela Central de Intendentes Mercantiles in Madrid, whose spirited introduction[190] to the book on economic geography of A. López Sánchez, professor of economic geography at the same institution, is a patriotic plea for the advancement of geography in his country's interest; and Antonio Blázquez, librarian of the Royal Geographical Society of Madrid, whose original volume on Spain[191] in his adaptation of Vidal de la Blache and Camena d'Almeida's textbook

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[183] Cf. the letter of March 3, 1911, from the Royal Geographical Society of Madrid to the Minister of Education, *Rev. de Geogr. Colon. y Mercantil*, Vol. 8, 1911, pp. 81–84.

[184] La geografía y su enseñanza, *ibid.*, Vol. 10, 1913, pp. 409–441. Second edition published as a 42-page pamphlet, Madrid, 1920.

[185] Geografía: Guía y plan para su estudio, con especial aplicación á la geografía económica, 3 vols.: Vol. 1, 264 pp., 3rd edition; Vol. 2, 291 pp., 2nd edition, both Madrid, 1920; Vol. 3, 1st edition, 196 pp., Madrid, 1917. (See synopsis, *Rev. de Geogr. Colon. y Mercantil*, Vol. 17, 1920, pp. 363–364, and review of first edition, *ibid.*, Vol. 14, 1917, pp. 41–52.)

[186] Cf. his inaugural address at the opening of the academic year 1909–10 at the University of Barcelona: La enseñanza de la geografía en España, *Bol. Real Soc. Geogr.*, Madrid, Vol. 51, 1909, pp. 409–441 (with references to previous papers of importance in the reform movement and a plea for the consideration of oceanography), and a paper read at the fortieth anniversary of the Madrid Geographical Society: La ciencia geográfica en España, *ibid.*, Vol. 58, 1916, pp. 143–153.

[187] Cf. Odón de Buen: El Instituto Español de Oceanografía y sus primeras campañas, *Trabajos de Oceanogr.* 1, Madrid, 1916.

[188] Los estudios geográficos en España: Ensayo de una historia de la geografía, 366 pp., Real. Soc. Geogr., Madrid, 1917.

[189] Estado actual de la enseñanza de la geografía en España, *Bol. Real Soc. Geogr.*, Madrid, Vol. 58, 1916, pp. 153–170.

[190] Concepto y valor de la geografía y especialmente de la geografía económica, *Rev. de Geogr. Colon. y Mercantil*, Vol. 11, 1914, pp. 409–424.

[191] Antonio Blázquez, jointly with Delgado Aguilera: España y Portugal, Vol. 3 in Curso de Geografía por P. Vidal de la Blache, P. Camena d'Almeida y A. Blázquez adaptado á las necesidades de España y America (6 vols., Barcelona, 1913–16), Barcelona, 1914.

series on geography is one of the best modern geographies of that country.

The leading part played in the development of the modern scientific spirit in Spain by the Museo Nacional de Ciencias Naturales in Madrid under the jurisdiction of the Junta para Ampliación de Estudios é Investigaciones Científicas redounds to the benefit of geography. In the geological series of publications of the museum has appeared an excellent physical geography of the Iberian peninsula by Juan Dantín Cereceda,[192] thoroughly modern in method and spirit. Other numbers of geographical interest in the same series deal with the geology of the northern part of the peninsula, with the Quaternary glaciation of the mountains of Spain, and with the geography, including the human geography, of that important life-zone boundary, the Sierra de Guadarrama, at whose southern foot lies Madrid.[193] A product of the same school is a recent physiographic paper,[194] with block diagrams, on river capture in the Ronda basin in southern Spain. In the field of plant geography a recent book on the steppes of Spain[195] by Dr. Reyes y Prósper, professor of phytogeography at the University of Madrid, is of much interest. Among the numerous modern geographical works of Emilio H. del Villar there may be mentioned one on the subject-matter of geography and one on the "geographical value" of Spain.[196]

The recent military operations in Spanish Morocco have focused the country's attention on that region. Among timely publications may be mentioned a comprehensive history of European, especially Spanish, penetration in Morocco and a compilation of treaties and laws relating to that country by Jerónimo Becker,[197] a prize essay on the geographical, economic, and political aspects of Spanish Morocco,[198] an article by the Spanish Ambassador in London,[199] a study of the colonization problem,[200] contributions to the geology and physical geography,[201] and two maps.[202]

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[192] Juan Dantín Cereceda: Resumen fisiográfico de la Península Iberica, *Trabajos Museo Cienc. Nat. No. 9*, Madrid, 1912.

[193] E. Hernández-Pacheco: Ensayo de síntesis geológica del norte de la Península Iberica, *ibid.*, No. 7, 1912; Hugo Obermaier:—Picos de Europa,—Sierra de Gredos,—Sierra Nevada,—Sierra de Guadarrama, *ibid.*: *Serie Geol.*, Nos. 9, 14, 17, 19 (see note in *Geogr. Rev.*, Vol. 2, 1916, p. 308); C. Bernaldo de Quiros: Guadarrama, *ibid.*, No. 11, 1915, with bird's-eye view by Juan Carandell.

[194] Juan Carandell: Bosquejo geográfico del tajo de Ronda (Málaga), *Rev. de Geogr. Colon. y Mercantil*, Vol. 18, 1921, pp. 41–54.

[195] E. Reyes y Prósper: Las estepas de España y su vegetación, Madrid, 1915.

[196] La definición y divisiones de la geografía dentro de su concepto unitario actual, Barcelona, 1915; El valor geográfico de España: Ensayo de ecética, 301 pp., Madrid, 1921.

[197] Historia de Marruecos: Apuntes para la historia de la penetración europea y principalmente de la española en el Norte de Africa, Madrid, 1915; Tratados, convenios y acuerdos referentes á Marruecos y á la Guinea Española, Madrid, 1918.

[198] Abelardo Merino Álvarez: Marruecos, *Bol. Real. Soc. Geogr.*, Madrid, Vol. 63, 1921, pp. 5–168 (see *Geogr. Rev.*, Vol. 11, 1921, p. 618).

[199] Alfonso Merry del Val: The Spanish Zones in Morocco, *Geogr. Journ.*, Vol. 55, 1920, pp. 329–349 and 409–422 (transl. in *Bol. Real. Soc. Geogr.*, Madrid, Vol. 62, 1920, pp. 205–265, and noticed in *Geogr. Rev.*, Vol. 11, 1921, pp. 618–619).

[200] L. M. Peinador: El suelo de Marruecos y sus primeros habitantes: Problema hispano-marroquí, Madrid, 1920.

[201] Agustín Marin: Estudios relativos á la geología de Marruecos, *Bol. Inst. Geol. de España*, Vol. 42, Madrid, 1921; L. F. Navarro: Marruecos físico: Valor económico del protectorado español, *Rev. de Geogr. Colon. y Mercantil*, Vol. 18, 1921, pp. 221–239.

[202] Ecola y Mendez: España en Marruecos: Mapa de la zona en el norte del imperio asignada á España según el tratado de 1912, 1 : 450,000; and J. M. de Gamoneda: Mapa del Imperio de Marruecos, 1 : 600,000.

Portugal

In Portugal the chief geographical centers are the University of Lisbon and the Geographical Society of Lisbon. At the university Professor F. Silva Telles is professor of geography. Professor Telles' views on the content of geography in relation to academic work have been expressed in several papers.[203] He is also professor of climatology at the School of Tropical Medecine in Lisbon.[204] Associated with Professor Telles at the university is Professor L. F. de Lencastre Schwalbach Lucci, who has done work along modern lines both in physical and human geography. One of his papers is a methodological study of a region from the geographical point of view.[205] Many of the activities of the Geographical Society of Lisbon are associated with the name of its secretary-general, Ernesto de Vasconcellos, who is also attached to the Colonial School in Lisbon. Professor Vasconcellos was a delegate to the recent disarmament conference in Washington, and the members of the Association of American Geographers had the pleasure of hearing him read a paper on the early Portuguese discoveries at their 1921 meeting in that city. Among Professor Vasconcellos' recent publications may be mentioned a paper on Portuguese geographical work since 1889[206] and a series of geographical monographs on the Portuguese colonies, of which the numbers on the Cape Verde Islands and Portuguese Guinea have appeared.[207] Of the special publications of the Lisbon society a volume containing papers on colonial and economic questions in preparation for post-war conditions[208] is of interest. Besides these institutions geography is also represented at the School of Commerce in Lisbon, at which Professor J. G. Pereira dos Santos gives courses in economic geography; at the University of Coimbra, where Professor A. F. Carvalho teaches both geography in the Faculty of Letters and geology in the Faculty of Science; and the University of Oporto, where Professor Mendes Corrêa's anthropological work has geographical bearing, particularly his recent book on race and nationality, with special reference to Portugal.[209] A work of outstanding merit, in some phases even taking on the aspect of a social philosophy without thereby digressing from its central theme, is Dr. D. G. Dalgado's book on the climate of Portugal.[210]

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[203] L'enseignement supérieur de la géographie, *Compte Rendu Trav. IX^e Congr. Internatl. de Géogr.*, Vol. 3, pp. 271–280, Geneva, 1911; and O conceito scientífico da geografia, *Rev. Univ. Coimbra*, Vol. 4, No. 1 1915.

[204] This aspect of his work is reflected in: Le régionalisme climatologique, *Compte Rendu Trav. IX^e Congr. Internatl. de Géogr.*, Vol. 2, pp. 473–478, Geneva, 1910.

[205] Estudo metódico de uma região no ponto de vista geográfico, Lisbon. Other works: Estudos geográficos Alterações litorais; A ria de Aveiro), 70 pp., Lisbon, 1918; Emigração e colonização, 105 pp., Lisbon, 1914.

[206] Les voyages et les travaux géographiques des portugais depuis l'année 1889, *Atti del X Congr. Internaz. di Geogr.*, pp. 319–334, Rome, 1915.

[207] Colonias Portuguesas: Estudo elementar de geografia física, económica, e politica: I, Archipelago de Cabo Verde, Lisbon, 1916; II, Guiné Portuguesa, Lisbon, 1917.

[208] Questões coloniais e económicas: Conclusões e pareceres, 1913–1919, 339 pp., Lisbon, 1920.

[209] Raça e nacionalidade, 187 pp., Oporto, 1920.

[210] The Climate of Portugal and Notes on Its Health Resorts, 479 pp., Lisbon, 1914 (see notice in *Bull. Amer. Geogr. Soc.*, Vol. 47, 1915, pp. 787–788).

Belgium [211]

In Belgium the development of geography at the universities may be said to be in a transitional stage, with the greater part of progress toward the modern conception of the subject accomplished, however. Geography is represented in some form at all four of the country's universities. At the University of Brussels it is closely associated with history, as it was at the French universities before the new development. It is not a degree subject in itself, but it is required for the doctorate in the "history group" in the Faculty of Philosophy and Letters.[212] It is there represented by Professors A. Hegenscheidt and C. Pergameni.[213] In the School of Political and Social Science a course is given by Professor M. Robert on the geography and anthropogeography of the Belgian Congo. To Professor M. Leriche, who gives courses in geology and physical geography in the Faculty of Science, we are indebted for a discussion of the natural regions of Belgium, exclusively on a geological basis, however.[214] Although not representing geography as such, Professor Jean Massart, the botanist, of the Faculty of Science, has, through his excursions,[215] and his phytogeographical work,[216] become one of the chief promoters of modern geography in Belgium. At the state universities of Ghent and Liége geography was put in a specially favorable position by being made, in 1900, a subject for the doctorate,[217] and, significantly enough, in the Faculty of Science. No special productivity in publication at Ghent from this development has come to the writer's notice. While Professor F. van Ortroy, the incumbent of the chair, has, in his reports to the *Geographisches Jahrbuch* from 1903 to 1912, on the progress of geography in Belgium, covered all branches of the subject, his own field of work has been mainly in political and historical geography.[218] The numbers of geographical interest in the *Recueil des Travaux Publiés par la Faculté de Philosophie et Lettres de l'Université de Gand* (No. 27, by Nees; No. 35, by Denucé; No. 44, by van Ortroy) all concern the history of geography.

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[211] For a history of the development of geographical thought in Belgium, see Jules Mees: Les sciences géographiques, pp. 225–272 of Vol. I of "Le mouvement scientifique en Belgique," 2 vols., Brussels, 1907.

[212] Université Libre de Bruxelles: Programme des Cours pour 1921–1922, 90 pp., Brussels, 1921; reference on p. 38.

[213] In 1913 Professor Pergameni began to give a course in the history of civilization. The following papers are an outgrowth of this work: La géographie de l'histoire: Causerie méthodologique, 22 pp., Brussels, 1913; Le milieu géographique et les principaux aspects de la civilisation japonaise, *Rev. Univ. de Bruxelles*, Vol. 26, 1920–21, pp. 185–200.

[214] Maurice Leriche: Les régions naturelles de la Belgique, *Rev. Univ. de Bruxelles*, Vol. 19, 1913–14, pp. 185–218. See also *Geogr. Rev.*, Vol. 11, 1921, pp. 583–585 (map, p. 584).

[215] Excursions scientifiques (géographie, géologie, botanique, zoologie) organisées par l'Extension de l'Université Libre de Bruxelles et dirigées par le professeur Jean Massart: I, Sur le littoral belge, *Rev. Univ. de Bruxelles*, Vol. 11, 1905–06, *passim;* II, Dans le Brabant, *ibid.*, Vols. 12, 13, 14, 1906–07, 1907–08, 1908–09, *passim;* III, Sur le bord de la Meuse, 220 pp., Brussels, 1911; IV, En Hollande, 119 pp., Brussels, 1912. Parts I (223 pp., Brussels, 1908) and II (356 pp., Brussels, 1913) have also appeared in book form.

[216] Main work: Esquisse de la géographie botanique de la Belgique (separate from *Recueil Inst. Bot. Léo Errera*, suppl. Vol. 7bis), 332 pp., with "annexe" containing photographs and maps, Brussels, 1910.

[217] Joseph Halkin: Le doctorat en géographie dans les universités belges, *Compte Rendu Trav. IX^e Congr. Internatl. de Géogr.*, Vol. 3, pp. 303–307, Geneva, 1911. Cf. also Note on the Position of Geography in Belgium, by a Belgian Professor, *Geogr. Teacher*, Vol. 10, 1919–20, p. 153.

[218] To his earlier works on the boundary treaties of Africa, Peter Apianus, and Mercator, he added, just before the war: L'œuvre cartographique de Gérard et de Corneille de Jode, *Recueil Trav. Fac. Philos. et Lettres Univ. de Gand No. 44*, Ghent, 1914.

However, at the University of Liége the new opportunity brought about a period of marked activity.[219] Under the direction of Professor Joseph Halkin, who studied for a time under Richthofen and Ratzel,[220] a modest but valuable series, *Travaux du Séminaire de Géographie de l'Université de Liége*, was begun in 1905 in which the doctor's theses and seminar papers appeared. The publication emerges from the war with renewed vitality, three numbers having been added in 1920 and 1921 to its ten pre-war issues. The titles of some of these papers betoken the modern spirit of the work being done at Liége.[221] At the Catholic University of Louvain the progressive quality of the work in geography is assured by its being in the hands of Professor P. Michotte, who has recently, basing his research on the most recent developments of the German school of thought no less than the French, published a penetrating analysis of the subject matter of geography.[222] A recent paper, product of the Louvain geography department, is also evidence of its progressive spirit.[223]

Under the auspices of the Comité National de Géographie, which was founded in 1920 and is subsidized by the Ministry of Science and Arts, the first Belgian interuniversity geographic excursion was held in September, 1921.[224] Inspired by the similar French excursions, which began in 1906, and modeled on the earlier Belgian ecological excursions conducted by Professor Massart, who also directed the present one, these excursions promise to become an important factor in the advancement of modern geography in Belgium.

Elisée Reclus' Belgian Sojourn

It may be of interest here to make some mention of Elisée Reclus' Belgian sojourn, particularly as it bears some relation to the beginning of the modern movement in that country. Possibly in connection with certain endeavors to advance the status of geography,[225] and as a result of the greater freedom, within the combination with history, allotted geography in the higher institutions of learning by a law passed in 1890–1891, the great French geographer, who had just completed his monumental "Nouvelle Géographie Universelle," was in 1892 invited to give a course in geography at the University of Brussels. This appointment came to naught, however, seemingly because of his socialistic beliefs.[226] He soon became connected with the Université

[219] Joseph Halkin: L'enseignement de la géographie à l'Université de Liége, *Trav. Sémin. de Géogr. Univ. de Liége No. 6*, Liége, 1907.

[220] From this period dates his: L'enseignement de la géographie en Allemagne et la réforme de l'enseignement géographique dans les universités belges, 171 pp., Brussels, 1900.

[221] No. 8, La rupture scandinave: Étude anthropogéographique; No. 9, La transhumance; No. 10, L'influence de la forêt sur l'homme; No. 11, Le coton au Congo belge; No. 13, La région des dunes en Belgique: Étude de géographie humaine.

[222] L'orientation nouvelle en géographie, *Bull. Soc. Royale Belge de Géogr.*, Vol. 45, 1921, pp. 5–43.

[223] Marguerite Lefèvre: Carte régionale du peuplement de la Belgique, *La Géogr.*, Vol. 36, 1921, pp. 1–34 (abstracted in *Geogr. Rev.*, Vol. 11, 1921, pp. 612–614).

[224] Program in *Bull. Soc. Royale Belge de Géogr.*, Vol. 44, 1920, pp. 254–256, and *Bull. Soc. Royale de Géogr. d'Anvers*, Vol. 41, 1921, pp. 154–157. Account in *Ann. de Géogr.*, Vol. 30, 1921, pp. 454–456; relevant maps and diagrams in *Bull. Soc. Royale Belge de Géogr.*, Vol. 45, 1921, pp. 44–59.

[225] Cf. the reform proposal in J. Du Fief: L'enseignement supérieur de la géographie en Belgique, *Bull. Soc. Royale Belge de Géogr.*, Vol. 16, 1892, pp. 225–249.

[226] Guillaume de Greef: Éloges d'Elisée Reclus et de Kellès-Krauz, Ghent, 1906, pp. 34–35; and obituary notice in *Ann. de Géogr.*, Vol. 14, 1905, p. 374.

Nouvelle of Brussels, an institution of university extension type, founded in 1891, at which he established, in 1898, an Institut Géographique.[227] This event proved of assistance to the movement for the advancement of geography, from which resulted, as outlined above, the introduction of the doctorate in geography at the state universities in 1900. The work of the institute was published in a series entitled *Publications de l'Institut Géographique de l'Université Nouvelle de Bruxelles*, of which seven numbers had appeared by 1902, one by Reclus himself.[228] To this period belongs the writing of his last work, "L'homme et la terre" (5 vols., Paris, 1905).

The Netherlands

In the Netherlands the development of modern geography[229] has suffered from the fact that, when it was introduced at the universities, the unity of the subject was not recognized.

In 1907, when the veteran geographer, Professor C. M. Kan,[230] because of reaching the age limit retired from the chair he had occupied at Amsterdam University since 1877, two chairs were established, one in physical geography in the Faculty of Science, and the other in political geography and in the geography and ethnography of the Dutch East Indies in the Faculty of Letters and Philosophy. Likewise at the University of Utrecht, in 1907, the educational authorities proposed to establish a professorship in physical geography in the Faculty of Science and an instructorship in statistical, political, economic, and general geography in the Faculty of Letters. The plan further contemplated successively appointing professors of meteorology, climatology, oceanography, ethnology, etc. This brought forth protests from professional circles, and the instructorship in political geography was made a full professorship and the multifarious professorships were abandoned. However, to this day this dualistic conception of our subject persists at the Dutch universities. At Amsterdam E. Dubois, who recently contributed a paper on the historic function of dunes of Holland as natural dikes,[231] is professor of geology and physical geography, and S. R. Steinmetz of ethnography and social geography; at Utrecht the well-known geographers K. Oestreich, who was called from Germany to occupy the chair, and J. F. Niermeyer represent respectively geomorphology and economic geography.

This division of geography in the universities is of course detrimental to

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[227] Halkin, *Trav. Sémin. de Géogr. Univ. de Liége No. 6*, p. 15. Program in *Bull. Soc. Royale Belge de Géogr.*, Vol. 22, 1898, pp. 290–294.

[228] No. 5: L'enseignement de la géographie: Globes, disques globulaires et reliefs, Brussels, 1902.

[229] For a brief sketch of this development see the first part of H. Blink: De tragedie van het hooger onderwijs in de aardrijkskunde in Nederland, *Vragen van den Dag*, Vol. 34, 1919, pp. 801–814, Amsterdam. On geography in the universities see also W. E. Boerman: Hooger onderwijs in de aardrijkskunde en de opleiding van geografen, with postscript by H. Blink, *Tijdschr. Econ. Geogr.*, Vol. 10, 1919, pp. 157–160, and H. Blink: De handelsfaculteit aan de Amsterdamsche universiteit, in verband met de aardrijkskunde aan die faculteit, *ibid.*, pp. 331–337.

[230] Died in 1919. For a biographical notice with bibliography see J. A. C. A. Timmerman: Cornelius Marius Kan, *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 36, 1919, pp. 264–280.

[231] E. Dubois: Hollands duin als natuurlijke zeewering en de tijd, *ibid.*, Vol. 33, 1916, pp. 395–415.

the subject in the secondary schools,[232] as the great majority of prospective teachers get their training at the university. A movement to remedy these conditions is under way, and the Ministry of Education, Arts, and Sciences has recently addressed letters to the Councils of the Royal Netherlands Geographical Society, the Economic Geography Association, and other interested bodies, asking for expressions of opinion.[233] An improvement in conditions may be expected to result from these steps.

At the remaining two universities of the Netherlands, Leiden and Groningen, geography is only represented by a professorship in general history and political geography (J. Huizinga) at Leiden, and the ethnographic work of Professor A. W. Nieuwenhuis, of the same institution, mainly in New Guinea. At the School of Commerce (Handelshoogeschool) of Rotterdam, however, modern geography, mainly as economic geography, forms part of the curriculum. Professor J. F. Niermeyer comes from Utrecht to give courses. The subject is there also taught by Dr. H. Blink, who came into contact with the German school as a student of Gerland. Through his creation in 1910 of the monthly journal, *Tijdschrift voor Economische Geographie*, which owes a great measure of its value to his indefatigable pen,[234] he has done much to advance the cause of geography in the Netherlands. Recently the geographic staff at Rotterdam has been augmented by W. E. Boerman.[235] The work of Professor J. C. van Erde, who has recently published a helpful summary of the ethnography of the Dutch East Indies,[236] is also of interest to geographers. At the Polytechnic Institute (Technische Hoogeschool) of Delft the work of the geologists, particularly that of a general nature on the Dutch East Indies, is of geographical bearing. To Professor G. A. F. Molengraaf we owe a valuable summary of present knowledge of the structure of the East Indian Archipelago,[237] to which a paper on the present status of hydrographic surveys[238] is a helpful corollary. Professor H. A. Brouwer, who is at present exchange professor at the University of Michigan and who addressed the joint meeting of the Association of American Geographers and the American Geographical Society this spring, has recently published some results of his 1915 expedition to the Moluccas.[239] Of other work may be men-

[232] See for example P. Goedhart: Economische geographie en het onderwijs in aardrijkskunde, *Tijdschr. Econ. Geogr.*, Vol. 11, 1920, pp. 29–31.

[233] Letter from the Ministry, dated Feb. 24, 1920, and reply of Economic Geography Association in *Tijdschr. Econ. Geogr.*, Vol. 11, 1920, pp. 441–444. See also *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 38, 1921, pp. 313–314 and 462. For later developments, see *Tijdschr. Econ. Geogr.*, Vol. 12, 1921, pp. 112 and 188.

[234] Cf. in *Tijdschr. Econ. Geogr.* regional economic geographies of the Dutch provinces of Drenthe and Limburg (Vol. 10, 1919, Nos. 2–3 and 6–7) and foreign countries of economic interest, e.g. China and Japan (Vol. 12, 1921, No. 8–9; Vol. 13, 1922, No. 1). Cf. also interesting paper on economic regions: Regionale geographie, natuurlijke landschappen en economisch-geografische landschappen (Vol. 11, 1920, pp. 275–284).

[235] Cf. his inaugural address: Economische aardrijkskunde, *Tijdschr. Econ. Geogr.*, Vol. 11, 1920, pp. 411–420.

[236] Inleiding tot de volkenkunde van Nederlandsch-Indie, Haarlem, 1920.

[237] Modern Deep-Sea Research in the East Indian Archipelago, *Geogr. Journ.*, Vol. 57, 1921, pp. 95–121, with bathymetrical map, 1:10,000,000.

[238] C. Crandijk: Het werk der nederl. opnemingsvaartuigen in den Oost-Indischen Archipel, 1915–1920, *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 37, 1920, pp. 112–114, with map, 1 : 10,000,000. (One of a series of quinquennial summaries which have appeared in the *Tijdschr.* in 1904, 1910, 1915.)

[239] Geologische verkenningen in de oostlijke Molukken, *Verhand. Geol.-Mijnbouwk. Genoot. voor Nederland en Kolonien: Geol. Ser.*, Vol. 3, 1916, pp. 31–55; On the Tectonics of the Eastern Moluccas, *Proc. Royal Acad. Sci. Amsterdam*, Vol. 19, pp. 242–248, March, 1917.

tioned: in the field of human geography, a discussion of population centers in the Netherlands from the Roman period to 1920 by J. C. Ramaer,[240] two studies of the growth of a rural town into an industrial city,[241] and an illuminating discussion of East Friesland,[242] that northwesternmost corner of Germany, which is by its nature, history, and population so closely related to its Dutch counterpart; and, in the field of historical geography, the work of Dr. F. C. Wieder, known to us for his contribution[243] to I. N. Phelps Stokes's "The Iconography of Manhattan Island," on the Dutch aspect of the early exploration and cartography of Spitsbergen.[244] Among institutions that promote interchange of ideas, reference may also be made to the Geographische Kring,[245] or circle of geographers, and the geographical excursions,[246] the thirteenth of which was held in July, 1921, under the direction of Professor J. van Baren of the geological department of the Agricultural College of Wageningen.

Switzerland

The universities of Switzerland of course reflect the essential bi-lingualism of the country. There are seven universities, but although the French-speaking inhabitants number about 20 per cent and the Germans 70 per cent of the whole population, each nationality may be said to maintain three and a half universities (Fribourg is bilingual). At all geography is represented. Each group draws its inspiration from, and belongs to the school of thought of, the country whose language it speaks. At the University of Fribourg Professor Paul Girardin, a pupil of Vidal de la Blache, in addition to doing physiographic work has written an excellent account of Fribourg as a study in city geography.[247] Like Luxemburg, in the principality of that name, which also deserves monographic treatment, Fribourg, with an upper town on the plateau top and a lower town in the valley bottom of the entrenched meanders of the river on which it lies, lends itself admirably to such a discussion. At the University of Lausanne Professor C. Biermann likewise does distinctive work in city geography, having written an excellent study of Lausanne[248] and its hinterland,[249] besides discussing Swiss cities

[240] De middelpunten van bewoning in Nederland voorheen en thans, *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 38, 1921, pp. 1–38 and 174–215, with four maps showing status in 1795, 1840, 1880, and 1920.

[241] H. Blink: Eindhoven als economisch centrum, *Tijdschr. Econ. Geogr.*, Vol. 11, 1920, pp. 307–313; H. van Velthoven: De ligging en uitbreiding van Eindhoven, *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 38, 1921, pp. 397–399, with map, 1:20,000, showing growth since 1851.

[242] H. J. Moerman: Oostfriesland, *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 38, 1921, pp. 665–688.

[243] Cf. also his: Onderzoek naar de oudste kaarten van de omgeving van New York, *ibid.*, Vol. 35, 1918, pp. 235–260.

[244] F. C. Wieder: The Dutch Discovery and Mapping of Spitsbergen (1596–1829). Published by the Netherlands Ministry of Foreign Affairs and the Royal Dutch Geographical Society, Amsterdam, 1919.

[245] *Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 36, 1919, pp. 217–219; Vol. 37, 1920, pp. 254–255; Vol. 38, 1921, pp. 313–314.

[246] Twelfth, *ibid.*, Vol. 36, 1919, pp. 551–558; Thirteenth, *ibid.*, Vol. 38, 1921, pp. 746–749.

[247] Fribourg et son site géographique: Étude de géographie urbaine, *Bull. Soc. Neuchâteloise de Géogr.*, Vol. 20, 1909–10, pp. 117–128.

[248] Situation et site de Lausanne: Études de géographie urbaine, *ibid.*, Vol. 25, 1916, pp. 122–149 (abstracted in *Geogr. Rev.*, Vol. 6, 1918, p. 285).

[249] Le Jorat, *ibid.*, Vol. 20, 1909–10, pp. 5–116.

in general.[250] He has also made a study of *transhumance* in Valais, the upper Rhone valley,[251] and of the geographical basis of civilizations.[252] Professor Maurice Lugeon, the well-known geologist of the Alps, is also a member of the faculty at Lausanne. His pupil, Professor Emile Argand of the University of Neuchâtel, has recently published a standard synthesis of our present knowledge of the structure of the Western Alps.[253] Swiss geography has sustained a great loss in the death of Professor Charles Knapp in August, 1921.[254] Professor Knapp occupied the chair of geography at the University of Neuchâtel. He was an indefatigable worker. He founded the Geographical Society of Neuchâtel and made its *Bulletin* a scientific force. He edited, with G. Michel, the series of maps entitled *Documents Cartographiques de Géographie Economique* in which many valuable maps appeared; likewise a monumental geographical dictionary of Switzerland.[255] At the University of Geneva physical geography is represented by Professor Emile Chaix; he is at present annually engaged in the study of the Swiss National Park in the Engadine, with his son Dr. André Chaix, who is instructor of geography at the university. Political geography is represented by Professor William Rosier.

At the University of Berne, where the department was created and organized by Professor Brückner, now of Vienna, Professor R. Zeller has recently replaced Dr. Hermann Walser, who died in 1919.[256] Among his contributions to local geography, which are characterized by much insight, may be mentioned a study of villages in the Swiss Foreland in the canton Berne.[257] He also wrote an explanation of the admirable wall map of Switzerland in 1 : 200,000 which was prepared under government auspices.[258] Dr. Fritz Nussbaum, instructor in geography at Berne, has worked in Swiss physiography[259] as well as human geography.[260] At the University of Basel Professor Hugo Hassinger, formerly of Vienna and editor of the recently discontinued Austrian journal, *Deutsche Rundschau für Geographie und Statistik*, occupies the chair of geography.[261] His work has dealt mainly with Austrian lands.[262] At the University of Zürich Dr. H. J. Wehrli is

[250] Géographie des villes suisses, *44e Annuaire Soc. Suisse de l'Enseignement Secondaire*, pp. 151–177.

[251] Le Valais, *Revue Alpine: Section Lyonnaise*, Vol. 14, 1908, pp. 261–285.

[252] Le cadre géographique des civilisations, *Atti del X Congr. Internaz. di Geogr. Roma 1913*, Rome, 1915, pp. 1047–1072.

[253] Sur l'arc des Alpes occidentales, *Eclogae Geologicae Helvetiae*, Vol. 14, No. 1, Lausanne, 1916.

[254] For biographical appreciations see *Bull. Soc. Neuchâteloise de Géogr.*, Vol. 30, 1921, pp. 5-12 (by C. Biermann), *Ann. de Géogr.*, Vol. 30, 1921, p. 466 (by C. Biermann), and *La Géogr.*, Vol. 36, 1921, pp. 435–436 (by P. Girardin).

[255] Dictionnaire géographique de la Suisse, 6 vols. and atlas, Neuchâtel, 1902–10 (there is also a German edition).

[256] For biographical notice see Rudolf Zeller: Hermann Walser, *Petermanns Mitt.*, Vol. 65, 1919, p. 65.

[257] Dörfer und Einzelhöfe zwischen Jura und Alpen, 46 pp., *Neujahrs-Blatt Litt. Gesell. Bern auf das Jahr 1901*, Berne, 1900.

[258] Die Schweiz: Ein Begleitwort zur eidgenössischen Schulwandkarte, 3rd edit., Berne, about 1907 (French translation by C. Biermann, Berne, 1909).

[259] Die Täler der Schweizeralpen: Eine geographische Studie, 116 pp., Berne, 1910.

[260] Die Volksdichte des Kantons Bern, nebst Bemerkungen über die Darstellung der Volksdichte in der Schweiz, *Mitt. Naturforschenden Gesell. Bern*, 1919.

[261] Cf. his inaugural address: Über einige Aufgaben geographischer Forschung und Lehre, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 8, 1919, pp. 65–76, Vienna.

[262] E.g. Die mährische Pforte und ihre benachbarten Landschaften, 313 pp., map in 1 : 750,000, *Abhandl. Geogr. Gesell. Wien*, Vol. 11, No. 2, 1914; Bemerkungen über die Südostgrenze des deutschen Siedlungsgebietes, *Geogr. Zeitschr.*, Vol. 25, 1919, pp. 215–219.

professor of geography. He contributed the section on India and Farther India to Karl Andree's "Geographie des Welthandels."[263] Dr. A. de Quervain, known for his crossing of Greenland, is instructor in geography and meteorology. Mention should be made of Professor F. Becker, professor of cartography at the Zurich Polytechnic Institute, as representative of the Swiss school of cartography,[264] of whose plastic representation of relief by means of natural colors and shadows the firm of Kümmerly and Frey of Berne, publishers of the school wall map referred to above and many other maps, are possibly the best exponents. In the way of maps Switzerland has a valuable collection in the Musée Cartographique of Geneva, which contains, besides others, all the maps drawn for Elisée Reclus' "Nouvelle Géographie Universelle" by Charles Perron. An excellent relief model of Switzerland by Perron is in the foyer of the University of Geneva, and large-scale models of the Bernese Oberland and other mountain groups, as well as a series of maps illustrating the development of the cartography of the Alps, are in the Alpine Museum in Berne.[265]

Austria

Austria, like German Switzerland, forms part of the German-speaking world of thought. With the universities political barriers have not counted: Germany, German Switzerland, and Austria have been a unit and their professorships have been interchangeable. Among geographers who have crossed the boundaries are Professor Penck of Berlin, long at Vienna (1885–1906); Professor Brückner of Vienna, who built up the department at Berne (1888–1904) and then went for a short time to Halle (1904–06); Professor Philippson of Bonn, who was for a short time in Berne (1904–06); Professor Friederichsen of Königsberg, who succeeded Professor Philippson at Berne for two years (1907–09); Professor Gustav Braun of Greifswald, who during part of the war was serving in the German army while professor at the Swiss University of Basel; and, among recent appointees, Professor Hassinger of Basel, who went there from Vienna, and Professor Krebs, who went from Vienna to Würzburg and then to his present chair at Freiburg. This relation to the German world, possibly more intimate since the cessation of Austria's orientation toward southeastern Europe, should obviously be borne in mind in any consideration of science in Austria.

Austria now has three universities, Vienna, Graz, and Innsbruck. At all geography is represented. At Vienna there are two professorships, occupied by Professor Eduard Brückner, author of the theory of climatic periodicity which bears his name and, with Penck, investigator of the glacial epoch in

[263] Vorder- und Hinter-Indien, pp. 513–673 in "Karl Andrees Geographie des Welthandels," Vol. 2, Frankfort 1912.

[264] Some of the phases of its development, especially of topographic mapping, are sketched in F. Becker: Die schweizerische Kartographie im Jahre 1914 (Landesausstellung in Bern): Wesen und Aufgaben einer Landesaufnahme, 87 pp., *Schweiz. Zeitschr. für Artillerie und Genie*, Frauenfeld, 1915.

[265] Cf. R. Zeller: Ein Rundgang durch das Schweizerische Alpine Museum in Bern, 36 pp., 3rd edit., Berne 1913.

the Alps, and by Professor Eugen Oberhummer, who has specialized in historical geography. Professor Oberhummer is president and Professor Brückner is one of the vice-presidents of the Vienna Geographical Society, which, through its contact with academic circles, has maintained a high standard. In November, 1916, the Society celebrated its sixtieth anniversary. On this occasion Professor Brückner discussed the Society's activities and the progress of geography in Austria during the preceding ten years.[266] Among his recent publications is a paper, partly based on the observations made during the American Geographical Society's Transcontinental Excursion of 1912, on the Great Lakes and their commercial importance.[267] Professor Oberhummer published in 1917 a valuable work on the racial origin and historical development of the Turks,[268] and another on the peoples of the Balkan Peninsula.[269] Recently, for the fourth centenary of Magellan's circumnavigation he wrote a critical account of the voyage, with maps of the route of the fleet through the Strait of Magellan and the East Indian archipelago.[270] Geography is further represented at Vienna by Dr. Erwin Hanslik and Dr. Otto Lehmann. Dr. Hanslik is known for his studies, important as to geographic method, of the contact between Slav and Teutonic civilizations, one of which deals with the German city of Biala in Galicia.[271] Dr. Lehmann specializes in physiography. Among his recent papers are a study of the Plateau of Langres,[272] the margin of the Paris Basin overlooking the Saône depression, observations for which were made on Professor Davis' excursion in France early in 1912, and a discussion of river sources.[273] Among other members of the Vienna faculty whose work has geographical bearing may be mentioned the ethnographer Professor Michael Haberlandt, who has recently published a book on the peoples of Europe and the Orient,[274] and Dr. Hans Mžik, who contributes a definition of the Orient.[275]

At Graz the chair of geography is occupied by Professor Robert Sieger, joint editor with Professor Franz Heiderich, of the School of World Commerce of Vienna, of the excellent re-creation of Karl Andree's "Geographie des Welthandels," to the final fourth volume of which he has contributed

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[266] Die k. k. Geogr. Gesellschaft und die Entwicklung der Geographie in Österreich in den letzten 10 Jahren. *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 60, 1917, pp. 9–28.

[267] Die Grossen Seen Nordamerikas und ihre Bedeutung für den Verkehr, *ibid.*, Vol. 61, 1918, pp. 361–406.

[268] Die Türken und das Osmanische Reich, 115 pp., Leipzig, 1917 (somewhat expanded from original publication in *Geogr. Zeitschr.*, Vol. 22, 1916, pp. 65–87, 612–632, Vol. 23, 1917, pp. 78 ff. and 133 ff.).

[269] Die Balkanvölker, *Vorträge des Vereins zur Verbreitung naturwiss. Kenntnisse in Wien*, Vol. 57, 1917, pp. 263–332.

[270] Ferdinand Magellan und die Bedeutung der ersten Erdumsegelung, *Mitt. Geogr. Gesell. Wien*, Vol. 64, 1921, pp. 18–48.

[271] Biala, eine deutsche Stadt in Galizien: Geographische Untersuchung des Stadtproblems, 264 pp., Vienna, 1909.

[272] "Das Plateau von Langres" und die Hochfläche mit der Festung Langres, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 58, 1915, pp. 431–452.

[273] Über Fluss- und Bachursprünge in den Rückenlandschaften des feucht-gemässigten Klimas, *ibid.*, Vol. 61, 1918, pp. 113–142.

[274] Die Völker Europas und des Orients, 273 pp., Leipzig, 1920.

[275] Was ist Orient? Eine Untersuchung auf dem Gebiete der politischen Geographie, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 61, 1918, pp. 191–208.

a summarizing section on the classification of the economic regions of the world.[276] Recent of his writings in political geography deal with the relation between a state and its territory,[277] the state as an economic organism,[278] the geographical basis of the former Austria-Hungary,[279] and the broader geographical aspects of the difference in gauge of railway systems over the world and their influence on economic conditions.[280] Professor Heiderich has recently written on economic geography in general[281] and on the economic geography of Austria-Hungary.[282]

At Innsbruck Professor Johann Sölch occupies the chair of geography as successor to Professor Franz von Wieser, the eminent historian of cartography, who, at 70, had recently reached the retiring age at Austrian universities. Dr. Richard Marek, director of the Academy of Commerce in Innsbruck is also connected with the university. Professor Sölch contributed two papers to Professor Hettner's series on the war areas,[283] one on Rumania and one on Transylvania, and has recently published a geographical account of a pre-Alpine hill district between Mur and Drave on the German-Slovene contact zone.[284] Dr. Marek wrote a series of articles on the economic geography of southeastern Europe and Asia Minor and the commercial relations of these regions with Central Europe.[285]

The death of Professor Julius von Hann,[286] the eminent climatologist, in October, 1921, is a world loss to science. Only at the beginning of the year, at the age 83, did he turn over to younger hands the editorship of the *Meteorologische Zeitschrift*, which he had guided for fifty-five years.

Austrian War Work in Geography

Like Germany, although on a smaller scale, Austria undertook the scientific investigation of the lands she occupied during the war. For the study of the portion of Russian Poland which was under Austrian administration—the section lying south of 51½° N., except for a strip along the

[276] Die wirtschaftsgeographische Einteilung der Erde, pp. 3–128 in Karl Andree's "Geographie des Welthandels," Vol. 4, Vienna, 1921.

[277] Staatsgebiet und Staatsgedanke, *Mitt. Geogr. Gesell. Wien*, Vol. 62, 1919, pp. 3–17.

[278] Die Nation als Wirtschaftskörper, in Festschrift Eduard Hahn zum 60. Geburtstag, Stuttgart, 1917.

[279] Die geographischen Grundlagen der österreichisch-ungarischen Monarchie und ihrer Aussenpolitik, *Geogr. Zeitschr.*, Vol. 21, 1915, pp. 1–22, 83–105, 121–131.

[280] Wegbahn und Spur, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 59, 1916, pp. 362–404, with map of the world in Eckert's projection, 1 : 90,000,000, showing gauges of railroad systems.

[281] Wirtschaftsgeographie, in Festschrift der k. k. Exportakademie, Vienna, 1917, abridged in *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 60, 1917, pp. 223–228.

[282] Die weltpolitische und weltwirtschaftliche Zukunft von Österreich-Ungarn, *ibid.*, Vol. 59, 1916, pp. 73–105 and 137–169; Die Grundlagen der Agrarwirtschaft Österreichs, *ibid.*, pp. 727–735.

[283] Der siebenbürgische Kriegsschauplatz, *Geogr. Zeitschr.*, Vol. 23, 1917, p. 257 ff.; Der rumänische Kriegsschauplatz, *ibid.*, p. 409 ff.

[284] Die Windischen Bühel, *Mitt. Geogr. Gesell. Wien*, Vol. 62, 1919, pp. 220–226 and 241–276.

[285] Südost-Europa und Vorder Asien: Wirtschaftsleben und Handelsbeziehungen besonders mit dem Deutschen Reiche und der österreichisch-ungarischen Monarchie, *Geogr. Zeitschr.*, Vol. 22, 1916, pp. 139–161 (the lands on the lower Danube), 441–458 (former European Turkey and Montenegro), 510–527 (Greece), Vol. 23, 1917, p. 365 ff. and 422 ff. (Asiatic Turkey).

[286] Obituaries in *Meteorol. Zeitschr.*, Vol. 38, 1921, pp. 321–327; *Geogr. Rev.* (by R. DeC. Ward), Vol. 12, 1922, p. 312; *Ann. de Géogr.* (by Angot), Vol. 31, 1922, pp. 79–81; *Ann. Hydrogr. und Marit. Meteorol.*, Vol. 11, 1921, pp. 337–338.

Silesian border—[287]a Study Commission was created late in 1916 and attached to the Military Government of Lublin.[288] Its program was mainly directed to detailed studies in the natural sciences, and it therefore did not produce any synthetic geography of the area in its jurisdiction. Indeed this area is covered in the Handbook of Poland by the German commission already referred to. But the main Austrian field of work was the western Balkan Peninsula, especially Serbia, Montenegro, and Albania. Of most of this region adequate topographic maps were lacking, and the Austrian army engineers undertook its survey.[289] Before the war ended sheets in 1 : 50,000 had been completed of northern Serbia, western Montenegro, and central Albania. On the basis of this mapping Dr. Ernst Nowack, sometime of the School of Mines at Leoben, Styria, carried out various geological reconnaissances in 1917–18. In addition to the geology[290] and geomorphology,[291] which he discussed elsewhere, he has described the geography[292] of this region for readers of the *Review*. In the summer of 1916 Dr. Kerner von Marilaun of the Geologische Reichsanstalt had visited the little-known North Albanian Alps.[293] Under the auspices of the Vienna Geographical Society and the Academy of Sciences a geographical and geological expedition was sent to Serbia. Professor Krebs, then of Vienna, the geographer of the expedition, was in the field on two occasions of about five weeks in 1916, mainly in northern Serbia and the Novibazar region. He wrote several reports,[294] mainly on economic geography. An ethnographic expedition under the auspices of the Ministry of Education and the Academy of Sciences was undertaken in 1916 by Dr. Arthur Haberlandt, instructor in ethnography at the University of Vienna, in southern Serbia, Albania, and Montenegro.[295] In the summer of 1917 a general informational trip was organized by the Army Press Bureau to the occupied Balkan lands. Professor Oberhummer was a member of the party that went to Montenegro and Albania and has given us a geographical account of that trip.[296]

A consequence of the war, of special interest to geographers, may here be noted. Quite a number of the scientific staff of the Military Geographical Institute of Vienna, the excellent survey office of Austria, including the

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[287] Cf. J. G. Rothaug: Verwaltungsgebiete Österreich-Ungarns und des Deutschen Reichs in Polen, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 5, 1916, pp. 30–32, with map in 1 : 2,000,000.

[288] *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 6, 1917, p. 56.

[289] Hubert Ginzl: Aufgaben und Tätigkeit der Kriegsmappierung auf der Balkanhalbinsel, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 61, 1918, pp. 497–513, with index map, 1 : 1,450,000, and samples of topographic sheets.

[290] Die geologische Erschliessung Albaniens im Kriege, *ibid.*, Vol. 62, 1919, pp. 211–219; Die Grundzüge der Tektonik Mittelalbaniens, *Centralblatt für Mineralogie*, 1920.

[291] Morphogenetische Studien aus Albanien, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1920, pp. 81–117.

[292] A Contribution to the Geography of Albania, *Geogr. Rev.*, Vol. 11, 1921, pp. 503–540.

[293] Reisseeindrücke aus den nordalbanischen Alpen, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 61, 1918, pp. 65–74.

[294] Vorläufiger Bericht über den ersten Teil der geographisch-geologischen Studienreise nach Serbien, *ibid.*, Vol. 59, 1916, pp. 609–614; —über den zweiten Teil —, *ibid.*, pp. 673–678; Wirtschaftsgeographische Beobachtungen auf den beiden Studienreisen nach Serbien, *ibid.*, Vol. 60, 1917, pp. 161–216, with statistical tables by Dr. Hermann Leiter; Zur Verkehrsgeographie Rasciens [i.e. the former sanjak of Novibazar], *Petermanns Mitt.*, Vol. 63, 1917, pp. 265–269.

[295] Berichte über die ethnographischen Arbeiten im Rahmen der historisch-ethnographischen Balkanexpedition, *Mitt. k. k. Geogr. Gesell. Wien*, Vol. 59, 1916, pp. 736–742.

[296] Montenegro und Albanien unter österreichisch-ungarischer Verwaltung, *ibid.*, Vol. 61, 1918, pp. 313–346,

chief of the technical division, Artur von Hübl, have been engaged by the Brazilian government for two years to co-ordinate the existing survey organizations in that country and establish a single organization to undertake the uniform topographic mapping of Brazil.[297] The Austrian cartographers reached Rio de Janeiro in October, 1920.

Denmark

Geography in Denmark has suffered a serious loss by the death, in October, 1920, on his return from a trip to Canada and the United States, of Professor H. P. Steensby,[298] who occupied the chair of geography at the University of Copenhagen since 1911. An all-round modern geographer in all that that term implies, he had developed the geography department at Copenhagen, the only one in Denmark, to a high state of efficiency. Fortunately he has left us an outline of his views in a book entitled "Introduction to the Study of Geography at the University of Copenhagen,"[299] which would prove a valuable guide to the student of geography in any country. In it he discusses such topics as the method of geography and the solution of geographical problems and gives a history of the growth of the various branches of the science and an outline of the development of geography as a university subject. He concludes with a systematic survey of landforms and their modifying agencies, including a characterization of the humid, glacial, and arid cycles of erosion. With Professor Steensby's work on Eskimo culture geography[300] and on the early Norse voyages to America[301] readers of the *Review* are already familiar.

As successor to Professor Steensby Dr. Martin Vahl was appointed in August, 1921. Professor Vahl's work has been mainly in plant geography: he collaborated with Warming in the preparation of his well-known manual of ecology and some years ago investigated the question of life zones from the phytogeographical standpoint.[302] He has recently published a generalized map of the vegetation regions of South America based on climate.[303]

Of other recent results of geographical work in Denmark may be mentioned a comprehensive geographical handbook of Denmark[304] by numerous authors under the editorship of Daniel Bruun, historian of the early Norse

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[297] Einrichtung eines militärgeographischen Instituts in Brasilien durch österreichische Militärgeographen, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 9, 1921, p. 16.

[298] See obituary notices in *Geografisk Tidskrift*, Vol. 25, 1919–20, pp. 262–263, and *Meddelelser om Grønland*. Vol. 37, pp. i–ii, 1921.

[299] Inledning til det geografiske Studium ved Københavns Universitet, 190 pp., Copenhagen, 1920.

[300] An Anthropogeographical Study of the Origin of the Eskimo Culture, *Meddelelser om Grønland*, Vol. 53. pp. 39–228, 1917 (cf. Clark Wissler in *Geogr. Rev.*, Vol. 9, 1920, pp. 125–138).

[301] Norsemen's Route from Greenland to Wineland, *Meddelelser om Grønland*, Vol. 56, pp. 149–202, 1917; also reprinted as separate book, 109 pp., Copenhagen, 1918.

[302] Zones et biochores géographiques, *Overysigt Kong. Danske Vidensk. Selsk. Forhdl.*, 1911, No. 5 (= pp. 269–317).

[303] Vegetationskort over Sydamerika, *Geografisk Tidskrift*, Vol. 25, 1919–20, pp. 197–204, with map in 1 : 60,000,000.

[304] Danmark: Land og Folk: Historisk-topografisk-statistisk Haandbog. Edited by Daniel Bruun with the collaboration of a number of specialists. 2 vols. (Vol. 1, 663 pp.; Vol. 2, 429 pp.), Copenhagen, 1919. (Professor Steensby's contribution, "Danmarks Natur," is noticed in the *Geogr. Rev.*, Vol. 12, 1922, p. 327.)

settlement in Greenland under Eric the Red;[305] a new edition of a German translation[306] of Warming's manual of ecology; and an anthropogeographical study of Farther India.[307] In the pre-eminently Norse field of Arctic geography, an invaluable summary of the geography of Greenland,[308] with atlas, has just appeared in the *Meddelelser om Grønland*, in commemoration of the bi-centenary of the landing of Hans Egede, the "apostle of Greenland," and Knud Rasmussen has given us a general account of the results of his Second Thule Expedition in 1916–18,[309] while outlining the plans for his fifth expedition.[310] Lauge Koch, geologist of the Rasmussen expeditions, in a recent paper[311] suggests structural continuity between the ancient Caledonian mountain system (Scotland and Norway) and western Spitsbergen, northern Greenland, and northeastern Ellesmere Island. The career of the veteran geographer of Iceland, Thorvald Thoroddsen, who died in September, 1921,[312] was closed with the publication of an account of his island home and its people,[313] a Danish version of the Icelandic original.

Norway

The foremost advances in geography in Norway center, of course, around the name of Nansen. In his scientific capacity Dr. Nansen is professor of oceanography at the University of Christiania. Among his recent publications are a paper and book on his cruise to Spitsbergen in 1912[314] from whose results he makes deductions as to the tidal wave in the North Polar Basin and the extension and shape of the basin, and a preliminary but fundamental study (with Professor Helland-Hansen of the Bergen Geophysical Institute) of the temperature variation in the North Atlantic Ocean and in the atmosphere as a basis for the investigation of the cause of climatological variations.[315]

[305] Erik den Røde og Nordbokolonierne i Grønland, Copenhagen, 1915 (reviewed in *Geogr. Rev.*, Vol. 5, 1918, p. 254.)

[306] Eugen Warming's Lehrbuch der ökologischen Pflanzengeographie, von E. Warming and P. Graebner, 2nd edition, Berlin, 1918.

[307] Johannes Reumert: Nogle Traek af Bagindiens Anthropogeografi, *Geografisk Tidskrift*, Vol. 26, 1921–22, pp. 89–98 and 120–124.

[308] Grønland i Tohundredaaret for Hans Egedes Landing. 2 vols. and atlas (*Meddelelser om Grønland*, Vols. 60 and 61 and atlas), Copenhagen, 1921. The text contains a 174-page general account of Greenland, followed by detailed accounts of the various districts. The atlas contains general maps in 1 : 10,000,000 and detailed in 1 : 1,000,000. An English edition of the work in 3 vols. is in preparation.

[309] Grønland langs Polhavet: Udforskningen af Grønland fra Melvillebugten til Kap Morris Jesup, Copenhagen, 1919. English edition: Greenland by the Polar Sea: The Story of the Thule Expedition from Melville Bay to Cape Morris Jesup, New York, no date [1922?], with map of new surveys in northern Greenland 1 : 2,500,000.

[310] Den V. Thule-Ekspedition: Den danske Ekspedition til arktisk Nordamerika under Ledelse af Knud Rasmussen, *Geografisk Tidskrift*, Vol. 26, 1921–22, pp. 57–60.

[311] Stratigraphy of Northwest Greenland, *Meddelelser fra Dansk Geol. Forening*, Vol. 5, No. 17, map p. 73 text p. 75.

[312] See obituary notices in *Geografisk Tidskrift*, Vol. 26, 1921–22, p. 100, and this number of the *Geogr. Rev.*

[313] Island: Land og Folk, translated from the 3rd edition of the Icelandic original, Copenhagen, 1919.

[314] Spitsbergen Waters: Oceanographic Observations during the Cruise of the "Veslemöy" to Spitsbergen in 1912, *Kristiania Videnskapsselskapets Skrifter: I, Mat.-Naturv. Klasse*, 1915, No. 2, 132 pp. (reviewed in *Geogr. Rev.*, Vol. 3, 1917, pp. 500–501); En ferd til Spitsbergen, Christiania, 1920.

[315] Temperatur-Schwankungen des Nordatlantischen Ozeans und in der Atmosphäre: Einleitende Studien über die Ursachen der klimatologischen Schwankungen, *ibid.*, 1916, No. 9, viii and 341 pp. Translated into English, with additions by the authors and by Dr. C. G. Abbot, the solar physicist, as *Smithsonian Misc. Colls.*, Vol. 70, No. 4, viii and 408 pp., 1920.

Geography at the university is further represented by two instructorships, one in physical geography, occupied by W. Werenskiold, known for his work on the physiography of Norway,[316] the other in political geography, held by A. Arstal. Professor H. Mohn, who was working up the meteorological results of Amundsen's Antarctic expedition,[317] as of his previous expeditions, died in 1916.[318] Amundsen himself spent the winter of 1921–22 in the United States, completing, with Dr. H. U. Sverdrup, at the Carnegie Institution of Washington, the preparation of the studies in terrestrial magnetism to be made on his proposed drift across the Polar Basin in the *Maud*. Of the first part of this trip he has recently published an account.[319] Among other publications of interest may be mentioned a map, in more detail than is usual, of Nicholas II Land and adjacent islands north of Cape Chelyuskin, Siberia;[320] a report on the surveys made in 1909–10 by Gunnar Isachsen in Spitsbergen;[321] an article on the Lapp reindeer herds in Norway and their seasonal migration partly within Norway and partly across the Norwegian-Swedish frontier;[322] a geographical study of Christiania by Dr. Hans Reusch,[323] director of the Geological Survey of Norway, and an important atlas of the economic geography of Norway.[324]

Sweden

Modern geography is in a high state of development in Sweden. A rapid advance has taken place in the last few years, for which an active group of younger men is in no small measure responsible. The older established centers, however, are active also. The Swedish Anthropological and Geographical Society of Stockholm in 1919 added to its valuable organ *Ymer*, in which articles of general interest appear in Swedish, a scientific quarterly of international scope called *Geografiska Annaler*, in which papers are published mainly in English, French, and German. Its maintenance is guaranteed for at least five years by a gift of 100,000 crowns which was made to the society for that purpose. In addition there are geographical associations, of a more professional type and centering around the staff of

[316] Cf. e.g. The Surface of Central Norway, Memorial Vol. Transcontinental Excursion of 1912 of the Amer. Geogr. Soc., New York, 1915, pp. 357–365.

[317] *Kristiania Videnskapsselskapets Skrifter: I, Mat.-Naturv. Klasse*, 1915, No. 5 (reviewed in *Geogr. Rev.*, Vol. 2, 1916, p. 484, and Vol. 6, 1918, pp. 524–525), and 1916, No. 3.

[318] See obituary notices in *Monthly Weather Rev.*, Vol. 44, 1916, p. 518, and *Norske Geogr. Selskabs Aarbok*, Vol. 26–27, 1914–16, pp. vi–ix.

[319] Nord-Ost Passagen, Copenhagen, 1921.

[320] *Norske Geogr. Selskabs Aarbok*, Vol. 26–27, 1914–16, opp. p. 28, mean scale, 1 : 4,000,000.

[321] Gunnar Isachsen: Travaux topographiques de l'Expédition Isachsen, 1909–10, *Kristiania Videnskapsselskapets Skrifter: I, Mat.-Naturv. Klasse*, 1915, No. 7, 63 pp., with map 1 : 200,000 (referred to on pp. 216–218 in Charles Rabot: The Norwegians in Spitsbergen, *Geogr. Rev.*, Vol. 8, 1919, pp. 209–226, an article which is brought down to date by M. Rabot's note in the *Geogr. Rev.*, Vol. 12, 1922, pp. 303–304).

[322] Kristian Nissen: Lapper og ren i Norge, *Norske Geogr. Selskabs Aarbok*, Vol. 26–27, 1914–16, pp. 45–110, with map, 1 : 2,000,000.

[323] Kristiania geografi, 52 pp., Christiania, 1913, with two maps in 1 : 30,000 and 1 : 10,000.

[324] Per Nissen: Ökonomisk-geografisk atlas over Norge med en oversigt over de kulturelle og ökonomiske forhold saerlig naeringsveiene. Utarbeidet med statsbidrag under medvirken av mange fagmaend. (Atlas of the economic geography of Norway with a survey of the cultural and economic relations especially to trade. Compiled with government support and with the collaboration of many specialists.) 66 pp. text and 48 pp. maps, Christiania, 1921.

the geographical departments, at the three university towns of Gothenburg, Upsala, and Lund. The association at Gothenburg issues a journal at irregular intervals;[325] the Geografiska Föreningen in Lund was founded in February, 1921.

At the University of Stockholm human geography is highly developed. It is there in the hands of Dr. Sten De Geer, son of Baron De Geer, the well-known geologist. Concentrating on the fundamental problem of population distribution, he studied the island of Gothland[326] and the cities of the Baltic Sea region[327] and then brought his work to culmination in an admirable atlas of the population distribution of Sweden,[328] in which the "dot" and "sphere" methods of representation[329] tried out in the previous investigations were effectively applied. Other publications of Dr. De Geer deal with suggested new administrative subdivisions of Scandinavia on a geographic basis[330] and the political geography of the New Europe.[331] At the School of Commerce in Stockholm Professor Gunnar Andersson, editor of the geographical society's publications and, until recently, its secretary-general, is professor of economic geography. In this field, to which he turned from his earlier work in plant geography, he has recently devoted his attention to Australia[332] and the food resources of the world.[333]

At the University of Lund geography is strongly represented. In the Faculty of Letters Professor Helge Nelson, devoting himself at first to intensive studies of the history of settlement in the mining district of central Sweden,[334] has recently published an excellent paper on the human regions of Sweden,[335] in which human agglomerations are the basis of subdivision, in recognition of the fact that they are outgrowths of the region in which they lie and expressions of its character. The paper is intended to

[325] *Meddelanden från Geografiska Föreningen i Göteborg*, No. 1, 1912; No. 2, 1917.

[326] Befolkningens fördelning på Gottland, *Ymer*, Vol. 28, 1908, pp. 240–253, with maps in 1 : 300,000 and 1 : 900,000.

[327] Storstäderna vid Östersjön, *ibid.*, Vol. 32, 1912, pp. 40–87, with plate of maps of Baltic cities in 1 : 100,000 showing built-up area generalized. Cf. also *idem*: Die Grossstädte an der Ostsee, *Zeitschr. Gesell. für Erdkunde zu Berlin*, 1912, pp. 754–766.

[328] Karta över befolkningens fördelning i Sverige den 1 januari 1917. Atlas of 12 plates in 1 : 500,000 accompanied by separate explanatory text: Befolkningens fördelning i Sverige: Beskrivning till karta i skalan 1 : 500,000, 296 pp., Stockholm, 1919. (See note in *Geogr. Rev.*, Vol. 9, 1920, p. 360, and Dr. De Geer's own statement in the *Geogr. Rev.* referred to at the end of the next footnote.)

[329] On the method of representation see Per Stolpe: Till frågan om Gottlands befolkningsfördelning, *Ymer*, Vol. 28, 1908, pp. 413–419; reply by Sten De Geer, *ibid.*, pp. 451–452; Alfred Söderlund: Förslag till intensitetsbeteckning vid konstruktion av täthetskartor, *ibid.*, Vol. 35, 1915, pp. 267–272; G. A. Larsson: Intensitetsbeteckningar vid kartografisk framställning av befolkningsfördelningen i tätare bebyggda trakter, *ibid.*, pp. 351–364; Sten De Geer: A Map of the Distribution of Population in Sweden: Method of Preparation and General Results, *Geogr. Rev.*, Vol. 12, 1922, pp. 72–83.

[330] Sveriges landsdelar, *ibid.*, Vol. 38, 1918, pp. 24–48 (abstracted in *Geogr. Rev.*, Vol. 11, 1921, pp. 143–144).

[331] Europas statsgränser och statsområden efter världskriget, *ibid.*, Vol. 40, 1920, pp. 253–302, with map showing the foreign population elements within the countries of Europe as now constituted.

[332] Om sambandet mellan natur och kultur i Australien, *Ymer*, Vol. 34, 1914, pp. 293–330; Australien: Natur och kultur, Stockholm, 1915 (reviewed in *Geogr. Rev.*, Vol. 7, 1919, pp. 431–432).

[333] Vårt dagliga bröd: Näringsväxterna i världsproduktionen, Stockholm, 1916.

[334] Om kulturgeografien i skolan (examples: Öland and Västra Västmanlands bergslag), *Ymer*, Vol. 32, 1912, pp. 88–102; En bergslagsbygd, *ibid.*, Vol. 33, 1913, pp. 278–352.

[335] Geografiska studier över de svenska städernas och stadslika orternas läge, *Lunds Univ. Årsskrift*, N. S., Section I, Vol. 14, No. 13, 110 pp., 1918; Sveriges kulturgeografiska provinser: Ett bidrag till diskussionen om Sveriges landsdelar, *Ymer*, Vol. 38, 1918, pp. 341–354 (noticed, with map, in *Geogr. Rev.*, Vol. 11, 1921, pp. 144–145).

furnish the foundation for a later detailed study of Swedish cities. Professor Nelson was in the United States and in Canada last summer, studying settlement methods in the northern Great Plains area. Dr. John Frödin of the Faculty of Science has dealt with the glacial features[336] and the tree limit[337] in northern Lapland and, lately, with *transhumance* in an alpine grazing region in central Sweden near the Norwegian border.[338] In the past summer he was engaged in a phytogeographical expedition to Morocco.[339] Dr. Arnold Norlind of the Faculty of Letters has studied the question of climate in historic times, especially in northern and central Europe,[340] and, recently, Magellan's circumnavigation of 1521.[341]

At the University of Gothenburg the chair of geography is occupied by the well-known geographer, Professor Otto Nordenskjöld. He has recently published a concise and helpful history of the development of scientific geography during the nineteenth century[342] and has added to his previous regional geography[343] a general geography[344] of the Polar lands. Professor Nordenskjöld has recently returned from a trip to Chile and Peru.[345] Oceanography is represented by Dr. Hans Pettersson, who has recently been investigating the relationship between meteorological influences and internal movements in stratified coastal waters.[346]

At the University of Upsala physical geography predominates. Dr. H. W. Ahlmann, until 1921 at the University of Stockholm, is doing advanced work in physiography according to modern methods. In keeping with his earlier expressed conception of geomorphology,[347] and its application to lake shores,[348] he recently published an excellent physiographic study of Norway.[349] He followed this with a preliminary investigation of the geomorphology of southern Sweden,[350] where conditions are more obscure than in the neighboring Norwegian area, the study of which in a way served as preparation. Dr. Ahlmann has also successfully worked in economic

[336] Några iakttagelser rörande glaciationen i norra delen af Lule Lappmark, *Ymer*, Vol. 35, 1915, pp. 98–109.

[337] Studier över skogsgränserna i norra delen av Lule Lappmark, *Lunds Univ. Årsskrift*, N. S., Section II, Vol. 13, No. 2, 1916 (with German résumé).

[338] Fäbodbebyggelsen i Kall och Offerdal, *Geografiska Annaler*, Vol. 1, 1919, pp. 353–386.

[339] *Ymer*, Vol. 41, 1921, pp. 356–358.

[340] Till frågan om det historiska klimatet, särskilt i Nord- och Mellaneuropa, *ibid.*, Vol. 35, 1915, pp. 83–97.

[341] Fernão de Magalhães och den första världsomseglingen 1519–22: Till 400-årsminnet, *Ymer*, Vol. 41, 1921, pp. 1–24.

[342] Geografisk Forskning og geografiske Opdagelser i det nittende Aarhundrede (in series: The Nineteenth Century Described by Scandinavian Scientists, edited by Aage Friis), Copenhagen, 1920 (Swedish edition, Stockholm, 1921), reviewed in *Geogr. Rev.*, Vol. 12, 1922, p. 324.

[343] Polarvärlden och dess grannländer, Stockholm, 1907 (German edition, Leipzig, 1909; French edition Paris, 1913.)

[344] Polarnaturen (in series: Popular Scientific Lectures at the University of Gothenburg), Stockholm, 1918. reviewed in *Geogr. Rev.*, Vol. 12, 1922, p. 324.

[345] En resa i Sydamerikas Kordillerastater, *Ymer*, Vol. 41, 1921, pp. 227–253.

[346] Papers in *Meddel. Geogr. Fören. i Göteborg*, No. 2, 1917, pp. 29–44, and *Geografiska Annaler*, Vol. 2, 1920, pp. 33–66, and Vol. 3, 1921, pp. 165–182.

[347] Geomorfologin som modern vetenskap, *Ymer*, Vol. 35, 1915, pp. 67–82.

[348] Strandzonens allmänna morfologiska utveckling med särskild hänsyn till insjöar, *Ymer*, Vol. 34, 1914, pp. 241–270.

[349] Geomorphological Studies in Norway, *Geografiska Annaler*, Vol. 1, 1919, pp. 1–148 and 193–252 (reviewed by W. M. Davis in *Geogr. Rev.*, Vol. 9, 1920, pp. 368–369).

[350] Some Working Hypotheses As Regards the Geomorphology of South Sweden, *Geografiska Annaler*, Vol. 2, 1920, pp. 131–145.

geography, recently producing a thoroughgoing study of northern Sweden.[351] The work done by the other members of the department of geography (Professor Axel Hamberg, head of the department, and Dr. F. Enquist) relates mainly to the glacial geology of Sweden. Professor Rudolf Kjellén of the political science department, however, makes contributions to human geography.[352]

Among other work of interest may be mentioned J. G. Andersson's investigations in China,[353] where he has been engaged since 1914 as adviser to the Chinese Government in mining matters, and his association with the recently created Geological Survey of China;[354] Baron Gerard De Geer's work in glacial and post-glacial geochronology, in connection with which he visited the United States and Canada in 1920,[355] and his recently published studies on Spitsbergen;[356] and Professor Carl Skottsberg's expedition to the eastern Pacific islands.[357] Among noteworthy publications the first volumes published of Sven Hedin's elaborate work on Southern Tibet,[358] with a map of Central Asia and Tibet in 1 : 1,000,000, stands foremost.

Finland

In keeping with the general high cultural level of Finland, geography has long been in an advanced state of development in that country, and even greater progress may be expected as a result of the newly acquired political independence. For over thirty years—since 1888—two geographical societies have existed in Helsingfors,[359] the Sällskapet för Finlands Geografi (Société de Géographie de Finlande) and the Geografiska Föreningen i Finland (Société Finlandaise de Géographie). The former, devoting itself almost exclusively to the geography of Finland, has since 1889 issued a valuable journal, *Fennia*, in which its researches are published, with sum-

[351] The Economical Geography of Swedish Norrland, *Geografiska Annaler*, Vol. 3, 1921, pp. 97–164 (abstracted in the *Geogr. Rev.*, Vol. 12, 1922, pp. 132–133).

[352] Inledning till Sveriges geografi, Gothenburg; Die Grossmächte der Gegenwart, Leipzig, about 1915 (German translation; post-war adaptation as: Die Grossmächte und die Weltkrise, Leipzig, 1920).

[353] Professor J. G. Andersson's forskningar i Kina, *Ymer*, Vol. 39, 1919, pp. 157–173 (see also notice in *Geografiska Annaler*, Vol. 1, 1919, pp. 387–388).

[354] J. G. Andersson: The National Geological Survey of China, *Geografiska Annaler*, Vol. 3, 1921, pp. 305–310.

[355] See note in *Geogr. Rev.*, Vol. 11, 1921, p. 139.

[356] On the Physiographical Evolution of Spitsbergen, Explaining the Present Attitude of the Coal-Horizons, *Geografiska Annaler*, Vol. 1, 1919, pp. 161–192, with map, 1 : 500,000 (reviewed in *Geogr. Rev.*, Vol. 8, 1919, pp. 283–285); Om Spetsbergens natur i Sveagruvans omnejd, *Ymer*, Vol. 39, 1919, pp. 240–277, with map, 1 : 100,000.

[357] Till Robinson-ön och världens ända, Stockholm, 1918 (reviewed in *Geogr. Rev.*, Vol. 12, 1922, pp. 324–325). See also *idem*: The Islands of Juan Fernandez, *Geogr. Rev.*, Vol. 5, 1918, pp. 362–383.

[358] Southern Tibet: Discoveries in Former Times Compared With My Own Researches in 1906–1908, 9 vols. (Vols. 1, 2, 3, 5 so far published, Stockholm, 1916–17), atlas of Tibetan panoramas (Stockholm, 1917), and separate maps: route surveys, 1906–08, 26 sheets in 1 : 300,000 (12 published, 1917); 40 sheets in 1 : 200,000; map of Central Asia and Tibet, 1 : 1,000,000 in 15 sheets (two published, 1917). (See a discussion of the historico-geographical, cartographical, and geomorphological phases of the work in *Ymer*, Vol. 38, 1918, pp. 101–186, and review in *Geogr. Rev.*, Vol. 10, 1920, pp. 424–425).

[359] Cf. e.g. Exposé des travaux géographiques executés en Finlande jusqu'en 1895: Communication faite au 6ème Congrès International de Géographie à Londres, 1895, par la Société de Géographie de Finlande, Helsingfors, 1895, pp. 7–8.

maries in German, French, or English. The latter has taken all of geography as its field and has published two journals, the one, since 1888, *Geografiska Föreningens Tidskrift* (called *Terra* since 1913), with articles of general interest in Swedish and Finnish only, and the other, since 1892, *Meddelanden af Geografiska Föreningen*, with major contributions in the two national languages but with German, French, or English résumés. In 1921 both societies were amalgamated,[360] retaining the name and journal of the former. It is not known whether the journals of the latter have ceased publication.

The work of the Geografiska Föreningen centers about the names R. Hult and J. E. Rosberg and is thereby closely associated with the development of geography at the University of Helsingfors.[361] About at the time of the founding of the two societies an instructorship in geography was established at the university and Dr. Hult was called to occupy it. He organized a department of geography in 1890 and through his work in the university became one of the leading contributors to the renascence of geography in Finland and to its recognition as a science. One aspect of Dr. Hult's work is familiar to American geographers because of the fact that Professor Ward has repeatedly called attention to his subdivision of the earth into climatic provinces.[362] Dr. Hult died in 1899. In 1902 the instructorship was raised to an associate professorship, and later to a full professorship, and Professor J. E. Rosberg, the present incumbent, was called to the chair. From that day to this[363] he has been an active worker in the improvement of geography in the schools, and was one of the chief memorialists of the petition to the government on that question.[364] In 1907 the position of director of seminar work in the department was created and Dr. J. G. Granö, well-known for his physiographic work in Mongolia and the Altai, the latest results of which have recently appeared,[365] was appointed. In 1908 an instructorship was established and Dr. I. Leiviskä, the present incumbent, appointed. He has recently published a comprehensive study, based on ten years' work, of the Salpausselkä,[366] the great terminal moraine which forms the southern border of the Finnish lake district.

At Åbo a university (Academy) with Swedish as the official language was opened in 1919, but only geology (H. G. Backlund), not geography is represented. Whether geography forms part of the curriculum of the

[360] Index Generalis: Annuaire général des universités, etc., 2nd issue, Paris, 1921, p. 1344.

[361] See L'enseignement de la géographie en Finlande: Exposé sommaire présenté par la Société Finlandaise de Géographie, *Meddel. Geogr. Fören. i Finland*, Vol. 8, 1907–09, 10th article, sections on the university, pp. 14–19, and on the Société Finlandaise de Géographie, pp. 19–21.

[362] Jordens klimatområden: Försök till en indelning of jordytan efter klimatiska grunder, *Meddel. Geogr. Fören. i Finland*, Vol. 1, 1892–93, pp. 140–201, with map of world in Mollweide's projection, 1 : 150,000,000. See Ward in *Bull. Amer. Geogr. Soc.*, Vol. 38, 1906, pp. 472–474, with Hult's map in Mercator's projection, equatorial scale, 1 : 97,000,000; and *ibid.*, Vol. 46, 1914, p. 110.

[363] Geografin och dess studium i Finland, särskilt Åbo, *Åbo Akad. Årsskrift*, 1918.

[364] Geografiska Föreningen inlaga till K. Senaten i geografi frågan, *Geogr. Fören. Tidskrift*, Vol. 18, 1906, pp. 161–166.

[365] Les formes du relief dans l'Altaï russe et leur genèse: Étude morphologique, *Fennia*, Vol. 40, No. 2, 128 pp. (reviewed in the *Geogr. Rev.*, Vol. 11, 1921, pp. 155–156).

[366] Der Salpausselkä (in German), *Fennia*, Vol. 41, No. 3, 388 pp., 1920, with map 1 : 400,000.

Finnish-language university which was to be opened also at Åbo in 1921 is not known.

The Sällskapet för Finlands Geografi, not content with having produced an atlas of all phases of the geography of Finland (second edition, 1911), the like of which, for their national domain, only three or four countries in the world can boast, has, as one of the first scientific obligations of political independence, undertaken the preparation of a systematic geography of the country.[367] The work, which is in preparation by a number of specialists under the editorship of Dr. R. Witting, the Society's secretary, will consist of two volumes of about 700 pages each, the first dealing with nature and the second with man. The work will first appear in Swedish and Finnish, but an edition in one of the "world languages" is contemplated. Being causal in its geographical treatment it will not duplicate the handbook recently published under the auspices of the Ministry of Foreign Affairs.[368] A recent publication of the Society's on Finland's boundaries,[369] including those of the new outlet to the Arctic Ocean established by the Treaty of Dorpat of October 14, 1920, is of interest.

Of other interesting work may be mentioned that done in Finland to correlate with Baron De Geer's studies of the glacial and post-glacial time scale[370] and papers on the type landscapes and natural regions,[371] the phytogeographical boundaries[372] and the cities[373] of Finland, and a work on Eastern Carelia and Lapland.[374]

The Baltic States

Each of the three Baltic States has a university, Lithuania at Kovno (founded in 1920), Latvia at Riga (1919), and Esthonia at Dorpat (reorganized 1919). The records available do not show whether geography is part of the curriculum at Kovno or Riga. At Dorpat, the Finnish geographer, Dr. J. G. Granö, referred to above as director of seminar work in the department of geography at the University of Helsingfors, is listed as full professor of geography.

Poland

The new state of Poland has five universities: Warsaw, Cracow, Lwów (Lemberg), Lublin, and Poznań (Posen). Poznań and the Catholic University of Lublin are new foundations since the war. At all the universities except Lublin geography is represented. At Warsaw, according to recent

[367] Aperçu des actes de la Société d'octobre 1915 à mai 1918, *Fennia*, Vol. 40, No. 1, pp. 98–106, 1919; reference on pp. 105–106, detailed synopsis of contents in preceding report in Swedish, pp. 19–36.

[368] Finnland im Anfang des XX. Jahrhunderts, Helsingfors, 1919.

[369] Les frontières de Finlande, *Fennia*, Vol. 42, No. 10, 1921, with map 1 : 2,000,000.

[370] Matti Sauramo: Geochronologische Studien über die spätglaziale Zeit in Südfinnland, *Fennia*, Vol. 41 No. 1, 44 pp., 1918.

[371] J. E. Rosberg: Finska landskapstyper, *Fennia*, Vol. 40, No. 9, 25 pp., 1919.

[372] Om växtgeografiska gränslinjer i Finland, *Meddel. Geogr. Fören. i Finland*, Vol. 10, 1913–14, first article.

[373] J. Qvist: Die Städtebildung in Finnland und ihre geographischen Voraussetzungen, *ibid.*, seventh article.

[374] Theodor Homén, edit.: Ostkarelen och Kola Lappmark skildrade av finska natur- och språkforskare, Helsingfors, 1920 (English edition, London, 1921).

information,[375] there would seem to be two universities, the old university of Warsaw, and a recently founded Free University of Poland. At the former plant geography (B. Hryniewiecki) and meteorology (W. Gorczyński) are represented. At the latter there are professorships of physical geography and geography of Poland (S. Lencewicz), economic geography (J. Loth), meteorology (W. Smosarski), and ethnography (S. Poniatowski). At the University of Cracow the well-known physiographer, L. Sawicki, is professor of geography. At Poznań the chair of geography is occupied by S. Pawlowski, who recently published a geography of Poland.[376] Most of these instructors are contributors to the excellent first volume of the *Révue Polonaise de Géographie* (*Przeglad Geograficzny*) edited by Professor Sawicki and published by the recently (1917) founded Polish Geographical Society (Polskie Towarzystwo Geograficzne) in Warsaw. The review will only appear more or less irregularly at present, but each volume will be followed by a separate annual bibliography covering the geographical literature on Poland and geographic publications in Polish. An important predecessor of the Polish Geographical Society was the Polish Society for Geography (Polskie Towarzystwo Krajoznawcze),[377] which was founded in Warsaw about in 1906. In 1910 it began the publication of a weekly periodical called *Ziemia* (*Earth*), which, however, stopped at the beginning of the war. This society numbered 850 members in Warsaw by 1909 and several hundred more in the 21 sections it maintained in other parts of Poland. Since 1914 it has co-operated in the publication of the important series of *Physiographic Memoirs* (*Pamiętnik Fizyograficzny*) which have been appearing since 1881 and contain many important contributions to the geography of Poland.

Pre-eminent among Polish geographers is Professor Eugeniusz Romer of the University of Lwów, widely known for his studies of the human and political geography of Poland during the war and at the peace conference. His most important work is the admirable Atlas of Poland[378] (Warsaw, 1916; second edition, 1921), recently supplemented by an "Atlas des Problèmes Territoriaux de la Pologne" (Lwów, 1921), which reproduces many of the maps prepared for the Paris and Riga peace conferences, among the latter one in 1 : 1,050,000 (Pl. 39) showing the eastern boundary of Poland according to the Treaty of Riga, signed March 17, 1921. Under the editorship of Professor Romer a series of geographical memoirs is appearing (*Travaux Géographiques Publiés sous la direction de E. Romer*) of which some five numbers have been issued, dealing mainly with Polish problems of political geography. Associated with Professor Romer at Lwów are

[375] Index Generalis for 1921, pp. 454 and 456.

[376] Geografia Polski, Lwów, 1917. See also list of Pawlowski's papers in *La Géogr.*, Vol. 36, 1921, p. 107.

[377] M. Friederichsen: Die Polnische Gesellschaft für Landeskunde in Warschau: Aus Anlass ihres zehnjährigen Bestehens, *Petermanns Mitt.*, Vol. 62, 1916, pp. 459–460; *idem*, *Geogr. Jahrbuch*, Vol. 38, 1915–18, pp. 332–333; L. Sawicki: Landeskundliche Bestrebungen in Polen, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 6, 1917, pp. 53–56 (this article contains a good general survey of the status of geography in Poland).

[378] Cf. review (by R. H. Lord) in *Geogr. Rev.*, Vol. 11, 1921, pp. 308–309; also *Ann. de Géogr.*, Vol. 29, 1920, pp. 382–384.

J. Czekanowski as professor of ethnology and H. Arctowski, well-known for his work on climatic changes and long resident in the United States, as professor of geophysics.[379]

Of great importance is a monumental Polish Encyclopedia undertaken by the Academy of Sciences in Cracow. Nineteen sections were contemplated, the first half of which are of geographical interest. Fortunately several of the first volumes have already been published:[380] Vol. 1 in 1912 on "The Physical Geography of the Polish Lands and Physical Characteristics of the Population" consisting of 16 articles by different contributors; Vols. 2 and 3 in 1915 on the Polish language and Vol. 4 on the beginnings of Slavonic civilization. Other sections were to deal with political history, historical geography, statistics, and economic conditions. Another work of this type, though originally intended for propaganda, is the Encyclopédie Polonaise published by the Comité National Polonais en Amérique.[381] Reference has already been made to the publications of the German geographical commission in Poland (p. 446).

Czechoslovakia

Since the establishment of Czechoslovakia as an independent state, two new universities have been founded, at Bratislava (Pressburg) and Brno (Brünn), but neither of them includes all the faculties as yet, and geography is not on the curriculum. At Prague, however, it is. Here, as before the war, there are two separate universities, the Czech and the German. At both geography is represented. At the Czech university there are two professorships of geography, occupied by V. Švambera, known for his work on the Congo, and J. V. Daneš, who has made a study of karst phenomena in various parts of the world, notably in Bosnia and Queensland. There are assistant professorships in meteorology and climatology (S. Hanzlík) and in economic and human geography (V. Dvorsky) and instructorships in geomorphology (V. Dědina) and ethnography (K. Chotek). At the German university the veteran African explorer Oskar Lenz is emeritus professor of geography, and Fritz Machatschek professor of geography. Dr. Machatschek, who is known for his physiographic work, has recently published in Penck's series of regional monographs the final results of his investigations in Turkestan,[382] to which the outbreak of the war abruptly put an end. Symptomatic of the change of conditions are the comparative pre-war and present budgets (in crowns) of the department of geography at the two universities, as follows: 1913 Czech, 1000; German, 1000; 1921: Czech, 6000; German, 1000.

[379] See his Agriculture and Landownership in Poland, *Geogr. Rev.*, Vol. 11, 1921, pp. 161–171.

[380] See *Ann. de Géogr. Bibliogr. Géogr. Annuelle* for 1913–14, No. 409, and H. Praesent: Bibliographischer Leitfaden für Polen, *Beitr. zur Polnischen Landeskunde*, Reihe B, No. 2, Berlin, 1917, pp. 4, 36–37, 38, 95–96.

[381] To embrace six volumes. Among the volumes of geographical interest already published are: Vol. 2 (Part I: Géographie et ethnographie; Part II: Démographie générale; Part III: Développement territorial), with atlas, Lausanne, 1920 (Part IV: Émigration et colonies polonaises à l'étranger, in press); Vol. 3 (Vie économique de la Pologne), with atlas, Lausanne, 1919.

[382] Landeskunde von Russisch-Turkestan (in series: Bibliothek länderkundlicher Handbücher, herausgegeben von A. Penck), 348 pp., Stuttgart, 1921.

Another factor in the development of geography in Czechoslovakia is the flourishing Czech Geographical Society at Prague, founded in 1895, which since its establishment has been publishing a valuable periodical (*Sborník České Společnosti Zeměvědné*) containing articles on Bohemia and systematic lists of geographical publications in Czech. Intellectual contact with France is maintained by the Institut Français de Prague, at which Professor Alfred Fichelle gives courses, mainly on the geography of France.[383]

Hungary

Since the war Hungary is reduced to two universities, the ancient University of Budapest and the newly founded (1914) University of Debreczen. At Budapest in addition there was established in 1919 a "Faculty of Political Economy." In 1907 a university had been created at Pozsony, but when this city became part of Czechoslovakia, the Hungarian university was withdrawn. A Czechoslovak university was established under the new name of the city, Bratislava, but, as stated above, geography is not represented in its curriculum. The faculties at Pozsony, likewise at Kolozsvár, now become Rumanian (see the section below), were transferred intact to Budapest. At all the Hungarian institutions referred to—Budapest, university as well as Faculty of Political Economy; Debreczen; Pozsony; Kolozsvár—geography is represented. The continued existence, at Budapest, of the Universities of Pozsony and Kolozsvár—according to the Hungarian conception—would seem to be indicated by the issuance under date of 1921 of the valuable first number of a joint publication of the geographical institutes of those two universities and of the university of Budapest and the Faculty of Political Economy.[384]

At the University of Budapest the chair of geography, formerly occupied by Professor Géza Czirbusz, who has recently published the first three volumes of a four-volume treatise on human geography[385] and a paper on the historical development of Budapest,[386] seems at present unoccupied, but there are instructorships in branches of geography, among which may be mentioned that of Dr. Michael Haltenberger in regional physiography. Dr. Haltenberger pursued studies in the United States in 1913, mainly relating to Block Island, on which he published several papers,[387] both before and after his return to Hungary. While here, he also wrote an interesting paper on

[383] A reflection of his reciprocal function, the spreading of knowledge of Czechoslovakia in France, is his paper: Les débouchés maritimes de la Tchécoslovaquie, *Ann. de Géogr.*, Vol. 30, 1921, pp. 241–248.

[384] Francis Fodor: Conditions of Production in Hungary, *Hungarian Geogr. Essays (Joint Publ. of the Geogr. Insts. Univ. of Budapest, Fac. of Polit. Econ., Univ. of Kolozsvár, and Univ. of Pozsony) No. 1*, 10 pp., diagrs. and maps, Budapest, 1921.

[385] Human Geography: Part I, Influence of Landforms, 127 pp., Budapest, 1915; Part II, Anthropogeography, 104 pp., Budapest, 1917; Part III, Political Geography, 62 pp. Budapest, 1919 (all in Hungarian). Part IV will deal with historical geography. Cf. the reviews in *Petermanns Mitt.*, Vol. 63, 1917, p. 37, and Vol. 64, 1918, p. 235.

[386] Historisch-geographische Lage von Budapest, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 7, 1918, pp. 81–86 with map, 1 : 100,000.

[387] Among them: A Study of the Cartographical Development of Block Island, R. I., 36 pp.; Physical Geography of Block Island, R. I., 43 pp.; both Hungarian Adriatic Assoc., Budapest, 1917.

primitive modes of transportation.[388] During the war he discussed Rumania.[389] On the Faculty of Political Economy geography is represented by the well-known geographer, Count Paul Teleki, who occupies the chair of economic geography. Count Teleki was head of the Hungarian commission of preparation for the peace conference and later first Minister of Foreign Affairs and then Premier of Hungary. Count Teleki was indefatigable in working out material bearing on the geography, especially the ethnography of Hungary for the peace conference. The following are some of the publications of which he was the author or editor: four series of maps of Hungary in 1 : 200,000[390] showing (1) nationality, (2) religious adherence, (3) ability or inability to speak Hungarian, (4) ability or inability to read and write, which because of their large scale and the consequent placing of the colored circles, of size proportional to the number of inhabitants, in the actual locations where people live, give an intimate picture of conditions; a general ethnographic map of Hungary[391] on which, by an ingenious method, the area shown as inhabited by each nationality is proportional to its numbers; and a paper[392] and a valuable atlas[393] on the economic geography of Hungary. Among relevant publications by others may here be mentioned an atlas[394] and a general survey[395] of Hungary, historical, ethnographic, and economic. Count Teleki revisited the United States in 1921, on which occasion he addressed the Institute of Politics at Williams College.

At the University of Debreczen Dr. R. Milleker, author of a treatise on vulcanism[396] and formerly joint editor of the international edition of the *Bulletin of the Hungarian Geographical Society*, is professor of geography. At Pozsony Dr. Gyula Prinz had been appointed to the chair of geography; he had from personal association studied the structure and ethnography of the Tian Shan.[397] At Kolozsvár the head of the department was the well-known geographer, Professor Jenö de Cholnoky, now president of the Hungarian Geographical Society. Among his numerous publications only one, a general paper on the Great Hungarian Lowland,[398] which reflects

[388] Primitive Carriers in Land Transportation, *Bull. Amer. Geogr. Soc.*, Vol. 47, 1915, pp. 729–745.

[389] Rumänien in politisch-geographischer Beleuchtung, *Kartogr. und Schulgeogr. Zeitschr.*, Vol. 6, 1917 pp. 138–142.

[390] Ethnographical Map of Hungary, 1 : 200,000, 53 sheets (8 not finished) in portfolio, Hungarian Geogr. Soc., Budapest, 1918. Similarly: The Communes of Hungary Showing (2) The Distribution of Religions; (3) The Persons Speaking Hungarian; (4) The Persons Able to Read and Write. Data on all maps are hand-colored.

[391] Paul Teleki: Ethnographical Map of Hungary Based on Density of Population, 4 pp. of text and map in 1 : 1,000,000, [Budapest, 1918].

[392] Paul Teleki: Short Notes on the Economical and Political Geography of Hungary, 15 pp. and 6 maps mainly in 1 : 4,000,000.

[393] Paul Teleki, A. de Edvi Illés, and A. Halász, edits.: The Economics of Hungary in Maps, 6th revised edition with 75 maps and 6 diagrams, Budapest, 1921. The various elements represented are shown for all of Hungary in its former as compared with its present extent on maps in 1 : 4,000,000.

[394] La Hongrie: Cartes et notions géographiques, historiques, ethnographiques, économiques, et intellectuelles, 48 pp., [Budapest, no date].

[395] Louis Lóczy, edit.: A Geographical, Economic, and Social Survey of Hungary, 122 pp., Budapest, 1919.

[396] A vulkanizmus teoriái, Szegedin, 1910.

[397] Reise in den südlichen Gebirgsketten des Tien-Schan zwischen Narin und Maral-Baschi, *Bull. Hungarian Geogr. Soc.: Internatl. Edit.*, Vol. 38, 1910, pp. 185–211; Ethnographische Beobachtungen im Tien-Schan, *A Magy. Nemz. Múzeum Néprajzi Osztályának Értesítöje*, Vol. 9, No. 1–2, pp. 69–90, Budapest, about 1909.

[398] Die Oberflächengestalt des Alföld, *Bull. Hungarian Geogr. Soc.: Internatl. Edit.*, Vol. 38, 1910, pp. 275–297, with physiographic map, 1 : 1,200,000, showing natural limits of the Alföld.

his work as head of the Alföld Commission of the geographical society, can be mentioned. The head of one of the Society's other commissions, that on Lake Balaton and editor of its many-volume scientific results, the eminent geologist, Professor Lajos Lóczy, died in 1920.

Rumania

The war has practically made no interruption in the existing energetic development of geography in Rumania; indeed, this development has proceeded more rapidly since that time. In this growth the Royal Rumanian Geographical Society of Bukharest has been an important factor. The important influence exerted as a matter of course by the universities has been enhanced since their increase, after Rumania's territorial enlargement, from the former two, Bukharest and Jassy, to four by the addition of Cluj (Kolozsvár) and Cernăutsi (Czernowitz).

The university men active in this development have been trained both in Germany and in France. Professor Mehedintsi, head of the department of geography at the University of Bukharest, is a pupil of Ratzel, under whom he took his Doctor's degree in 1899 with a suggestive thesis[399] and to whose memorial volume he contributed an anthropogeographical paper on the Rumanian steppe.[400] To provide a medium of expression for the work done in his department he created in 1909 an annual publication entitled *Anuar de Geografie shi Antropogeografie*, which has at least appeared to 1915 and which is replete with valuable studies in the geography, more especially the human geography, of Rumania.[401] Professor N. Iorga, the well-known historian at the University of Bukharest and editor of the *Bulletin de l'Institut pour l'Etude de l'Europe Sud-Orientale*, also makes contributions to geography, mainly on Rumanian territorial development.[402]

At the University of Cluj, in the department formerly presided over by the well-known Hungarian geographer Professor Cholnoky, Dr. G. Vâlsan has recently been appointed professor of geography. Professor Vâlsan is a pupil of Professor De Martonne of Paris. His thesis,[403] published in 1915, is an important and extensive physiographic study of the Rumanian plain. Both before and after this work he has made important contributions, mainly physiographic, to modern geographical knowledge of Rumania.[404] Associated with Professor Vâlsan at Cluj is Professor V. Merutsiu, who directed the department alone before Professor Vâlsan came from Jassy.

[399] Kartographische Induktion, Diss. Univ. Leipzig, 1899.

[400] Die rumänische Steppe: Eine anthropogeographische Skizze, "Zu Friedrich Ratzels Gedächtnis," Leipzig, 1904, pp. 249–255.

[401] For list of contents of Vol. 1, 1909–10, and Vol. 2, 1910–11, see: *Ann. de Géogr. Bibliogr. Géogr. Annuelle*, 1911, p. 170; of Vol. 3, 1913, *Bul. Soc. Reg. Române de Geogr.*, Vol. 34, 1913, No. 1, pp. 233–234; of Vol. for 1914–15, *ibid.*, Vol. 36, 1915, pp. 773–774.

[402] Auf- und Niedergang des türkischen Herrschaftsgebietes in Europa, *Petermanns Mitt.*, Vol. 59, I, 1913, pp. 1–7, with 5 maps, 1 : 10,000,000; Die Entwicklung des rumänischen Staatswesens, *ibid.*, Vol. 61, 1915, pp. 260–263, with ethnographic map, 1 : 1,500,000, by Langhans.

[403] Câmpia Română, *Bul. Soc. Reg. Române de Geogr.*, Vol. 36. 1915, pp. 313–568, with French résumé.

[404] Asupra trecerii Dunărei prin Portile de Fier: Studie de geografie critică, *ibid.*, Vol. 37, 1916–18, pp. 133–152; Văile: Origina shi evolutsia lor, *ibid.*, pp. 333–353; La terre et le peuple roumains, *Rev. Gén. des Sciences*, Vol. 31, 1920, pp. 338–342.

Professor Merutsiu has written papers on the salt deposits of Rumania[405] and the Rumanians of Transylvania.[406] The work of the department at Cluj has recently been described by Professor Vâlsan[407] and by Professor De Martonne,[408] the latter having given courses there and conducted an excursion in Rumania during the summer of 1921.

At the University of Jassy Dr. M. D. David is interim professor of geography. He recently published a paper on the physiographic evolution of Moldavia between the Sereth and the Pruth.[409] Professor I. Simionescu, the geologist at that institution, does work of geographical bearing, recently publishing a series of views, with comment, of Rumanian landform types.[410] At the University of Czernowitz, where Supan taught in the early days of his career, geography is at present represented by Professor K. A. Penecke, who occupied the chair of geology under the Austrian régime and still gives courses in geology. Dr. I. Prelipcean is listed as director of the geographical institute, likewise of the mineralogical institute.

Among other men of modern training should be mentioned Dr. Alexander Dimitrescu, who unfortunately died in 1917 at the age of 36.[411] He finished his studies in Germany, acquiring the doctorate in 1911 at the University of Berlin with a thesis on the lower Danube.[412] At Berlin he became familiar with American physiographic methods during Professor Davis' visiting professorship at that university. In addition to papers which reflect this influence on his studies,[413] he wrote on Rumania as a transit land.[414]

Among war-problem publications of geographical interest may be mentioned a map in 1 : 1,000,000 showing the distribution of Rumanians,[415] a political, historical, and ethnographic atlas of Rumania,[416] several publications on the Dobrudja,[417] and a reprint of Premier Bratianu's presentation of Rumania's territorial claims at the peace conference.[418]

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[405] Sarea în pământul Românese, *Bul. Soc. Reg. Române de Geogr.*, Vol. 33, 1912, pp. 69–162.

[406] Românii între Tisa shi Carpatsi: Raporturi etnografice, *Riv. Shtiintsifică V. Adamachi*, Vol. 6, 1915, pp. 135–143, Jassy.

[407] *Bul. Soc. Reg. Române de Geogr.*, Vol. 38, 1919, pp. 329–331.

[408] E. de Martonne: Enseignement et excursions géographiques en Roumanie, *Ann. de Géogr.*, Vol. 31, 1922, pp. 64–66.

[409] O schitsa morfologică podishului Sarmatic din Moldova, *Bul. Soc. Reg. Române de Geogr.*, Vol. 39, 1920, pp. 331–381, with French résumé.

[410] Tipuri geografice din România, *ibid.*, Vol. 36, 1915, pp. 714–738, with 64 illustrations (first published in *Rev. Shtiintsifică V. Adamachi*, Jassy, Vols. 3, 4, and 5).

[411] For biographical note see *Bul. Soc. Reg. Române de Geogr.*, Vol. 37, 1916–18, pp. 678–679.

[412] Die untere Donau zwischen Turnul-Severin und Braila: Geomorphologische Probleme, Diss. Univ. Berlin, 1911.

[413] W. M. Davis in literatura geografică contimporană, *ibid.*, Vol. 34, 1913, No. 1, pp. 175–179; Asupra teraselor aluvionare, *ibid.*, No. 2, pp. 17–26 (in German as: Über die Bildung der Alluvialterrassen, *Geogr. Anzeiger*, Vol. 12, 1911, pp. 101–103).

[414] România in transitul sud-est European, *Bul. Soc. Reg. Române de Geogr.*, Vol. 33, 1912, pp. 48–68.

[415] S. Demetrescu et al. Carte ethnographique des régions habités par les Roumains et les colonies étrangères qui s'y trouvent, 1 : 1,000,000, Paris, 1919.

[416] N. P. Comnène: La terre roumaine à travers les âges: Atlas historique, politique et ethnographique, 20 maps in 1 : 4,150,000, Lausanne and Paris, 1919.

[417] N. P. Comnène: La Dobrogea (Dobroudja): Essai historique, économique, ethnographique, et politique, 208 pp., with 10 maps, Lausanne and Paris, 1919; N. Iorga, G. Vâlsan, et al.: La Dobrogea roumaine: Études et documents, 176 pp., separate from *Bull. Inst. pour l'Étude de l'Europe Sud-orientale*, 1919 (for contents see *Bul. Soc. Reg. Române de Geogr.*, Vol. 37, 1916–18, pp. 630–631).

[418] România la conferintsa Păcii, *Bul. Soc. Reg. Române de Geogr.*, Vol. 39, 1920, pp. 223–237.

The Rumanian Geographical Society's activities have been guided by a body made up largely of men in government administration and of professional geographers. Dr. S. C. Hepites, one of the vice-presidents, was formerly director of the Rumanian Meteorological Office. Professor Mehedintsi is head of the Educational Section and Professor Vâlsan is on the Editorial Committee. There is also a Military Section, presided over by General Iannescu. It is at present devoting itself to the creation of a Cartographic Museum;[419] valuable collections have already been donated by the French and Italian war offices. Another undertaking contemplated by the Society is a bibliography of Rumanian geography.[420] The society is in a flourishing condition, its membership having increased from less than 400 in 1913 to 1500 in 1920. In 1914, on the death of King Carol I, its late president, it received a bequest of 300,000 lei.

Yugoslavia

In Yugoslavia universities with incomplete faculties have been created since the war at Lyublyana (Laibach), Subotica (Maria Theresiopel), and Skoplye. Geography is represented only at the existing universities of Belgrade and Zagreb (Agram). At Belgrade the subject has been raised to a high state of development by Professor Jovan Cvijić, well known for his work alike in physical and in human geography, recent illustrations of which are his critical elaboration of the cycle of erosion in a karst region[421] and his excellent book on the human geography of the Balkan Peninsula.[422] In 1910 through the instrumentality of Professor Cvijić the Serbian Geographical Society was founded. Since 1912 it has published a journal (*Glasnik Srpskog Geographskog Društva*) of which six numbers have appeared, the last two in 1921. The *Glasnik* is replete with papers of scientific value on all phases of the geography of the Balkan Peninsula. Associated with Professor Cvijić as professor of geography is B. Milojević. Climatology (P. Vujević) and ethnology (T. R. Djordjević and J. Erdeljanović) are also represented. Likewise with Serbia French geography had close ties in the person of the late Gaston Gravier, a pupil of Demangeon and lecturer at the University, whose death on the battlefield cuts short the career of one who promised to develop into the foremost Western authority on the geography of the Serbian lands.[423] At Zagreb geography is represented by a professorship (Milan Šenoa, who has specialized in oceanography and re-

[419] For detailed plan see Misiunea Muzeului Cartografic al Societătsii Regale Române de Geografie, *Bul. Soc. Reg, Române de Geogr.*, Vol. 37, 1916–18, pp. 418–520.

[420] *Ibid.*, Vol. 36, 1915, pp. 859–860.

[421] Hydrographie souterraine et évolution morphologique du karst, *Recueil des Trav. de l'Inst. de Géogr. Alpine* (Grenoble), Vol. 6, 1918, pp. 375–426. Abstracted by E. M. Sanders: The Cycle of Erosion in a Karst Region (after Cvijić), *Geogr. Rev.*, Vol. 11, 1921, pp. 593–604.

[422] La péninsule balkanique: Géographie humaine, Paris, 1918. For advance chapters in English see *Geogr. Rev.*, Vol. 5, 1918, pp. 345–361 and 470–482, and abstract of section on natural regions, *ibid.*, Vol. 9, 1920, pp. 199–204.

[423] Cf. his "Les frontières historiques de la Serbie," Paris, 1919 ("ce livre faisait présager un maître") and "La Choumadia," *Ann. de Géogr.*, Vol. 30, 1921, pp. 271–287, 351–361. Biographical notices in *Ann. de Géogr.*, Vol. 23–24, 1914–15, pp. 454–458, and *Glasnik Srpskog Geogr. Društva*, No. 5, p. 313, 1921.

cently contributed a bibliography of the geography of Croatia and Slavonia)[424] and assistant professorships in mathematical and physical geography (A. Gavazzi) and meteorology and climatology (A. Gilić, A. Mohoravičić, the latter also director of the Institute of Meteorology and Geodynamics).

Bulgaria

Geography is well represented at Bulgaria's only university, the University of Sofia, by Professor A. Ishirkov, a pupil of Ratzel, assisted by J. Radev. Professor Ishirkov has been an active writer, and his works are known in Western Europe, as they are accessible in German and French. The substance of several of his earlier studies is contained in his main work, a two-volume geography of Bulgaria.[425] In addition two papers on the settlements and the ethnography of the Bulgarians are of interest.[426] Several recent publications on the Dobrudja were called forth by the peace conference.[427]

Greece

At the University of Athens, the only university in Greece, geography is not represented. Some geographic work has been done by D. Eginitis, professor of astronomy. He has written on the climate of Athens and Attica.[428] The only other modern geographical work presumably by a Greek which is known to the writer is a monograph on eastern Crete by Dr. Leonidas Chalikiopoulos[429] of Cairo, who took his degree under Richthofen.

Conclusion

Even a cursory examination of the geographical work being done in Europe cannot but impress one with its variety, breadth, and truly geographical spirit. To the professional geographer it is an inspiration, a confirmation of his faith. From it he can draw strength to rededicate himself to his task. Recent events have roused general interest in his subject and led to a more widespread appreciation of its value and mission. Contact with the thought of his fellow-workers abroad will help him keep properly equipped for the wider opportunities for service of the new time. For us in America this contact, to our good fortune, has constantly become closer, especially in the last ten or fifteen years. International excursions and congresses, exchange professorships, and co-operation in various enterprises

[424] Geografska bibliographija za Hrvatsku i Slavoniju, *Glasnik Hrv. Prirod. Društva*, 1917.

[425] A. Ischirkoff: Bulgarien: Land und Leute (in series: Bulgarische Bibliothek), 2 vols., Leipzig, 1916–17.

[426] Die Bevölkerung in Bulgarien und ihre Siedelungsverhältnisse, *Petermanns Mitt.*, Vol. 57, II, 1911, pp. 117–122 and 179–185; Ethnographische Karte des Bulgarentums auf der Balkanhalbinsel im Jahre 1912, *ibid.*, Vol. 61, 1915, pp. 339–343, with map, 1 : 500,000, Pl. 44.

[427] A. Ichirkoff: Les Bulgares en Dobroudja: Aperçu historique et ethnographique, with map in 1 : 750,000, Berne, 1919; A. Ichirkov and others: La Dobroudja: Géographie, histoire, ethnographie, importance économique et politique, Sofia, 1918.

[428] To klima tes Hellados, 2 vols., Athens, 1908; Le climat de l'Attique, *Ann. de Géogr.*, Vol. 17, 1908, pp. 413–432.

[429] Sitia, die Osthalbinsel Kretas: Eine geographische Studie, *Veröffentl. des Inst. für Meereskunde Univ Berlin*, No. 4, 1903.

have cemented personal ties; European contributions to our journals and our increasing study of European publications, in which the language barrier has proven less formidable than it sometimes appeared, have aided the interchange of thought. It is to our own interest to foster this interchange and thereby add the stimulus of other points of view to that native genius which promises to make American geography of ever increasing value in the advancement of knowledge.

March, 1922